MCWP 3-40.1

Marine Air Ground Task Force (MAGTF) Command and Control

U.S. Marine Corps

Coordinating Draft - 13 January 2000

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DEPARTMENT OF THE NAVY
Headquarters United States Marine Corps
Washington, DC 20380-0001

13 January 2000

FOREWORD

1. PURPOSE

Marine Corps Warfighting Publication (MCWP) 6-2, *MAGTF Command and Control*, is designed to implement the command and control philosophy described in Marine Corps Doctrinal Publication (MCDP) 6, *Command and Control*, within the Marine air-ground task force (MAGTF).

2. SCOPE

MCWP 6-2 provides guidelines to assist commanders in organizing their staffs for the efficient and effective exercise of command and control throughout the MAGTF. It addresses the key role played by information management and assigns responsibilities for information management. It also provides guidance for the employment of command and control centers and communications and information systems to support MAGTF command and control. Finally, it addresses the need to protect MAGTF command and control.

This warfighting publication presents doctrine, tactics, techniques, and procedures for the command and control of the MAGTF. It does not provide detailed instructions, but rather establishes an overarching command and control architecture. This architecture builds on MCDP 6 and supports the basic warfighting principles of the Marine Corps as established in MCDP 1, *Warfighting*. This publication serves as the link between the command and control philosophy contained in MCDP 6 and the detailed tactics, techniques, and procedures found in MCWP 6-22, *Communication and Information Systems*, and MCWP 6-23, *MAGTF Information Management*.

MCWP 6-2 is written for all Marines involved in command and control—commanders at all echelons of the MAGTF, staff officers, and those Marines supporting the command and control process.

3. CHANGES

Recommendations for improving this manual are invited from commands as well as directly from individuals. Forward suggestions by using the user suggestion form to:

COMMANDING GENERAL

DOCTRINE DIVISION (C42)
MARINE CORPS COMBAT DEVELOPMENT COMMAND
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4. CERTIFICATION

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

J.E. RHODES
Lieutenant General, U.S. Marine Corps
Commanding General
Marine Corps Combat Development Command

DISTRIBUTION: 143 000064 00

MAGTF Command and Control

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Chapter 1

Introduction to Marine Corps Command and Control

1001. Marine Air-Ground Task Force Command and Control. The effectiveness of any organization depends on command and control. Joint Pub 1-02, *DOD Dictionary of Military and Associated Terms*, defines command and control as "the exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission." Command and control enables the commander's exercise of command. It provides the means for transferring the commander's will, intent, concepts, and decisions throughout the command. Command and control is the key to achieving unity of effort and realizing the full combat potential of the unit. It provides the means for commanders to form an understanding of the situation, decide what action is required, transmit instructions to subordinate commanders, monitor execution of instructions, and assess feedback on the results of the action. Although staff officers perform command and control functions and support the command and control process, the exercise of command and control is the sole responsibility of the commander.

The commander's personal leadership has a critical effect on the outcome of operations and is arguably the most important single element of combat power. Battlespace leadership requires the ability to make decisions under stress, the force of will to implement those decisions, and the moral courage to take responsibility for the outcome. Command and control allows the commander to exert personal leadership throughout the command.

Marine air-ground task force (MAGTF) command and control doctrine is the result of a long and continuing evolutionary process. It is time tested and proven in battle. It is based on a staff organization introduced into American military institutions in the late 19th century and patterned after European models. However, both the staff structure and staff procedures of the MAGTF are evolving to meet the command and control requirements of the modern battlefield and to take advantage of capabilities offered by improved communications and information systems. Marine Corps Doctrinal Publication (MCDP) 6, *Command and Contro*l, published in 1996, describes the way the Marine Corps would approach command and control in the information age. This publication builds on the command and control philosophy presented in MCDP 6 and represents a significant step in the evolution of MAGTF command and control doctrine.

Command and control seeks to gain an understanding both of enemy capabilities, intentions, and vulnerabilities and of our own capabilities and limitations. Command and control begins with the commander receiving a mission and developing a vision of mission accomplishment. It provides the commander with the wherewithal to accomplish tasks, reach objectives, and achieve goals. It integrates the capabilities of the whole command to attain those goals. It facilitates rapid, informed decisionmaking in the face of complex and uncertain situations. MCDP 6 uses Colonel John Boyd's well-known model of the command and control process—the observe, orient, decide, act (OODA) loop—to discuss how

effective command and control permits us to make and act on decisions more rapidly than the enemy. This speed advantage allows us to generate and control the operational tempo.

The policies and procedures used to effect command and control in large measure define the character of the organization. MCDP 6 emphasizes a command and control philosophy based on mission tactics—mission command and control. This approach to command and control lies at the heart of maneuver warfare. Under this approach, seniors assign missions and explain the underlying intent but allow subordinates as much latitude as possible in accomplishing the mission. Command remains centralized, but execution is decentralized and subordinates are expected to exercise their initiative based on their understanding of the commander's intent. The pace, complexity, and uncertainty of modern warfare necessitate this decentralization of control. The actual degree to which control is decentralized depends on the unique requirements of the specific situation. In some instances, detailed and highly centralized control will be required. Centralized planning may be employed to enhance unity of effort and concentrate resources on an identified main effort. However, whenever possible, decentralized execution is used to increase the speed and agility of our forces. Mission command and control is fundamental to the practice of maneuver warfare; it allows the necessary flexibility to adapt to rapidly changing situations and exploit fleeting opportunities.

The concept of commander's intent is key to executing mission command and control. The commander's intent enables unity of effort while decentralizing command and control. Once assigned a mission, the commander articulates how the operation should unfold—the desired result of the actions to be undertaken. In the absence of detailed instructions, the intent provides purpose and "the why". Along with the concept of operations, it forms the basis for continuous operational planning and execution. Details of execution, including coordination with other components of the command, are left to the commander who is responsible for mission accomplishment. Subordinate commanders must take the necessary action to deal with developing situations while continuing to carry out the mission. This freedom of action and emphasis on initiative exploits battlespace disorder and allows the MAGTF to control the tempo and pace of operations.

Every commander has the prerogative to modify, within the bounds of regulation and law, the command and control organization and procedures employed by his command. Different situations will demand different approaches to command and control. Furthermore, each commander will have a different leadership style, and the commander's subordinates will have differing abilities. All of these considerations will determine how the commander chooses to exercise command and control.

MAGTF command and control is characterized by a number of unique challenges. Command and control systems and procedures must be flexible enough to provide support to the MAGTF while afloat, while ashore in an austere expeditionary environment, and during transition from ship to shore. Continuous communications connectivity and complete interoperability with the amphibious task force (ATF) are required. Meeting these command and control requirements for amphibious operations is extremely difficult with currently available equipment and shipboard facilities. Spaces from which to exercise command and control are at a premium and, generally speaking, are available only to the higher

echelons of a MAGTF. Communications is a particularly difficult problem. Once the ship-to-shore movement begins, connectivity between the landing force and the ships of the ATF is extremely limited. For the Marine Corps to implement seabased command and control to support the concept of operational maneuver from the sea (OMFTS) and the supporting concept of ship-to-objective maneuver (STOM), these deficiencies must be eliminated. Intensive efforts are under way to identify requirements and upgrade capabilities. However, for the near term, effective command and control support of amphibious operations will demand extraordinary efforts; careful planning and coordination; and ingenuity, adaptability, and improvisation.

In joint operations, communications connectivity and command and control interoperability are required among the joint task force (JTF) headquarters, the Marine Service component commander, and any designated functional component commanders (which could include a joint force land component commander (JFLCC), a joint force maritime component commander (JFMCC), and a joint force air component commander (JFACC). In combined operations, connectivity and interoperability are also required with allied and coalition forces. Finally, especially during military operations other than war, connectivity and interoperability are required not just with military forces, but with other government agencies, host nation governments, and nongovernmental organizations.

The success of the MAGTF in each operational environment—current amphibious operations or future OMFTS operations as well as sustained operations ashore—and in all levels of conflict—from major theater war to military operations other than war—is critically dependent on the ability to exercise command and control.

1002. Command and Control Responsibilities. The commander is responsible for the effective exercise of command and control. He may be assisted in executing this responsibility by a deputy or assistant commander (executive officer at lower echelons) and by a staff, but he may never delegate that responsibility.

a. Commander

> The responsibility of commanders for their commands is absolute except to the extent that the commander is relieved of responsibility by competent authority or by regulations. While the commander may delegate authority to subordinates for the execution of details, such delegation of authority does not relieve the commander of responsibility for the safety, well-being, and efficiency of the entire command. The commander shall ensure that the delegated authority is properly exercised and that orders and instructions are properly executed.

These words from the *Marine Corps Manual* clearly establish the responsibility of the commander of any Marine Corps organization. Although the commander may delegate any or all of his authority and assign responsibilities to deputies or assistants, subordinate unit commanders, and staff officers, the commander alone is ultimately responsible for the accomplishment of assigned tasks and missions. The *Marine Corps Manual* is the source of another fundamental principle of

command—"The authority of the commander is equal with the commander's responsibility, subject to the limitations prescribed by law and regulations." Marine Corps commanders must be provided with the authority necessary to discharge their responsibilities.

b. Deputy or Assistant Commander. A large command normally has a deputy commander or an assistant commander. A deputy or assistant commander assumes command if the commander becomes a casualty or is otherwise incapacitated or unavailable to exercise command. At other times, a deputy or assistant commander performs duties specifically assigned by the commander. The distinction between a deputy commander and an assistant commander lies in the nature of duties assigned. When some or all of the routine duties to be performed require the delegation of some portion of the commander's authority, a deputy commander is provided and delegated specific authority with respect to specific duties. An assistant commander is provided when none of the routine duties to be performed require that he be delegated any portion of the commander's authority. However, in special circumstances, such as during the displacement of a headquarters, the assistant commander may be directed to perform functions that require that he exercise the delegated authority of the commander. In other circumstances, the assistant commander may be placed in command of a task force organized for a special mission. In these cases, however, the assistant commander ceases to function as such and assumes the status of a subordinate unit commander.

Each commander must clearly define his deputy or assistant commander's roles, duties, and relationships with the chief of staff, the staff, and the commanders of subordinate units. Normally, the commander assigns specific areas of responsibility, and staff members and subordinate unit commanders do not report to the deputy or assistant commander. Because deputy and assistant commanders must be prepared to assume command at any time, the commander must keep them informed of his battlespace vision and intent, and the chief of staff must ensure that they are kept abreast of the operational situation.

c. The Staff. The role of the staff of a unit is to assist and advise the commander in the exercise of command and control. Functions common to all staff officers include providing information and advice, making estimates, making recommendations, preparing plans and orders, advising other staffs and subordinate commands of the commander's plans and policies, and supervising the execution of plans and orders. The commander and his staff should be considered a single entity. Staff officers may be authorized to act in the name of the commander in certain matters; however, no staff officer has any authority over any subordinate unit of the command (although in some instances an officer may fill both a staff billet and a command billet simultaneously—for example, the commander of the artillery regiment is designated as the fire support coordinator for the division). Chapter 3 describes the organization and functioning of MAGTF staffs and the responsibilities of staff officers.

d. Command Channels and Staff Channels. Command channel is the term used to describe the chain of command that descends directly from a commander to his immediate subordinate commanders. Through this channel, a subordinate commander always has direct access to his

immediate superior. A staff officer may be delegated authority to act in the command channel in the name of his commander (staff cognizance). However, under no circumstances may that staff officer impede contact between a subordinate commander and his superior. A direct, personal relationship between commanders based on mutual trust and confidence is essential to effective command. The command channel represents the direct official link between higher and subordinate headquarters.

Staff channel is the term used to describe the procedures by which the commander issues instructions to his staff and through which staff officers submit recommendations and provide information to the commander. Staff channel also describes the interaction between staff officers and their counterparts at higher, adjacent, and subordinate headquarters. These staff-to-staff contacts are for coordination, cooperation, and technical direction only. Higher headquarters staff officers exercise no command authority over subordinate headquarters staffs. Staff officers must always respect the command authority and prerogatives of the commanders concerned. External staff coordination is a staff function that in no sense supplants the normal chain of command. When appropriate, matters that have been coordinated between unit staffs should be formalized by official correspondence through the chain of command. Chapter 3 will discuss in detail the duties and responsibilities of staff officers.

e. Staff Cognizance. The broad responsibility and authority over designated staff functions assigned to a general or executive staff officer (or their subordinate staff officers) in his area of primary interest. These responsibilities & authorities can range from coordination within the staff to the assignment or delegation to the staff officer by the commander to exercise his authority for a specified warfighting function or sub-function. Staff cognizance includes the responsibility for effective use of available resources and may include the authority for planning the employment of, organizing, assigning tasks, coordinating, and controlling forces for the accomplishment of assigned missions. Marine Corps orders and doctrine provide the notional staff cognizance for general or executive staff officers, which may be modified by the commander to meet his requirements.

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Chapter 2

Command Relationships and Levels of Authority

2001. Introduction.

Command is central to all military action, and unity of command is central to unity of effort. Inherent in command is the authority that a military commander exercises over subordinates. Command confers authority to assign missions and demands accountability for their attainment. The authority vested in a commander must be commensurate with the responsibility assigned. Achieving military objectives in peacetime and wartime depends primarily on the ability of a commander to position his forces at the right place at the right time. Effective employment and support of the forces is dependent on the command and control command relationships established, from highest to the lowest levels of authority.

Command relationships are the interrelated responsibilities between commanders, as well as the authority of commanders in the chain of command. They are established between units to foster understanding. Forces, not command relationships, are transferred between commands. When forces are transferred, the command relationships the gaining commander will exercise (and the losing commander will relinquish) over those forces must be specific. Generally, command relationships are developed by the G-3 and approved by the commander. They are determined in concert with the development of task organization during the Marine Corps Planning Process. Specifically, command relationships are detailed during the course of action (COA) development phase (See MCWP 5-1, *Marine Corps Planing Process*).

Command relationships and levels of authority, although authoritative, must be adapted to meet the requirements of the mission. Collectively, they provide the flexibility necessary to organize forces to respond to all situations. The establishment of command relationships is at the heart of MAGTF command and control. Command relationships establish the basis for interaction of unit commanders and foster freedom of action.

This chapter defines command relationships. The variety of command relationships and levels of authority are divided into six sections: MAGTF, Naval, Joint , NATO, Multinational, and Interagency command relationships .

Section I.
MAGTF Command Relationship/Levels of Authority Definitions

2101. The four elements of a MAGTF are the command element, ground combat element, aviation combat element, and the combat service support element. These elements will be further discussed in chapter 3. It is important to understand that while the principles are the same, command relationships are not necessarily identical for all elements of the MAGTF. Just as units have different capabilities that

contribute to the MAGTF mission, the application of a command relationship may differ for various elements of the MAGTF. Subordinate elements of a task organized force may be organic to the unit, attached to the unit, or tasked to provide support to the unit. These command relationships do not imply tactical missions or techniques of employment. Although the terms organic and attach are uniformly understood with in the MAGTF, the support relationships can differ in meaning within the MAGTF. A support relationship is normally identified by the MAGTF commander when planning missions for the subordinate elements of the MAGTF. The element of the force making the main effort is designated as the supported element; other elements are designated as supporting. Each support relationship is designed by the MAGTF commander to fit the situation at hand. A supporting-supported relationship allows required support to be provided by one element of the MAGTF to another without the need to change existing command relationships. Supported commanders do not exercise command (defined in paragraph 2101 (a)1) over the supporting units. Unity of effort is achieved through mutual coordination.

The designation of supported-supporting elements may change over the course of an operation. When the MAGTF is conducting long-range battlespace shaping operations, the ACE may be the main effort of the MAGTF and thus the supported element. However, as the MAGTF closes with the enemy, the GCE may be designated the main effort, with the ACE shifting from a supported to a supporting role.

Although the terms operational control (OPCON), defined in paragraph 2301(b), and tactical control (TACON), defined in paragraph 2301(c), are often used in joint and combined operations, they are not used to establish command relationships between Marine units within the MAGTF. Rather, command relationships established within the Marine Corps are termed as either command or support. When a Marine unit is under the command of a senior Marine unit, the subordinate Marine unit is either organic or attached (defined in paragraph 2101(a). Support relationships (paragraph 2101 (b))are established when one element or unit of the MAGTF provides a required capability to another element.

a. Command. The concept of command is applicable to all elements of the MAGTF.

1. Concept. Command is the authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel (JP 1-02).

2. Relationship. Marine Corps units are either organic or attached.

a. Organic. Organic is defined as assigned to and forming an essential part of a military organization (JP 1-02).

b. Attach. Attach is defined as the placement of units or personnel in an organization where such placement is relatively temporary. When a unit is attached, it is

under the command of the unit to which it is attached. Unless otherwise stated, this encompasses all command responsibilities (JP 1-02).

3. Example.

a. Organic. Organic parts of a unit are those listed in its table of organization. When used in the Joint arena, organic is the table of organization for the Army and Air Force, or are assigned to the administrative organizations of the operating forces for the Navy.

b. Attach. An attached unit is bound temporarily to a command other than its organic command. For example, a tank company attached to an infantry battalion for an operation or a tank battalion which is attached to an infantry regiment. When a unit is attached, it is under the command of the unit to which it is attached. Attached units may be further attached to subordinate units. For example, an infantry regimental commander could then further attach elements of the tank battalion to his subordinate battalions. Unless the attachment orders qualify the degree of control involved, attachment implies full responsibility for logistics, administration, training, and operations. However, the responsibility for matters relating to the transfer and promotion of personnel will normally be retained by the command to which the unit is organic. Units of like size are generally not attached to each other, with the exception of artillery units organized into groupments.

b. Support. Support is a command authority. A support relationship is established by a superior commander between subordinate commanders when one organization should aid, protect, complement, or sustain another force. The establishing authority should issue a directive that includes the purpose of the support relationship, the effect desired, and the scope of action to be taken. At a minimum, the time, place, level and duration of the supporting effort should be specified. Each support relationship is tailored by the senior commander to fit the situation at hand.

Support relationships in the Joint environment are different that support relationships within the Marine Corps. To further complicate the matter, Marine Corps units use the same terms to describe support relationships but not all of these terms apply in the same way when employed in different elements of the MAGTF or external to the MAGTF. Therefore support relationships are described are defined and explained as they are used in each element of the MAGTF.

In Joint Publication 0-2, there are four categories of support: direct, general, mutual, and close. These are addressed in section III. In the Marine Corps there are two categories of support that apply across the elements of the MAGTF: direct and general. Direct support is a mission requiring a force to support another specific force and authorizing it to answer directly to the supported force's requests. General support is a mission which is given to the supported force as a whole and not to any particular subdivision thereof. The following are the support relationships that are defined for each of the four elements for the MAGTF.

1. Command Element

The mission of the Command Element is to command and control, direct, plan and coordinate the air, ground, logistics, intelligence, and communications and information systems operations of assigned forces. The MAGTF commander is responsible for everything that his unit does or fails to do and is given commensurate authority. He cannot delegate his responsibility, or any part of it, although he may delegate portions of his authority. The MAGTF commander has the authority to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, training and logistics necessary to accomplish the mission. The command element has command and attached relationships, but does not normally have support relationships. When other services or combined units are attached, the commander can exercise OPCON and or TACON according to the command relationships defined in operational plan. Subordinate marine Corps forces are either organic or detached to the command element. External forces maybe OPCON, TACON, or in support of the command element in accordance with JP 1-02.

2. Ground Combat Element Support Relationships

Identification of the enemy's centers of gravity and critical vulnerabilities helps the GCE to concentrate its combat power on objectives most likely to achieve success. During the planning process, tasks and purposes are determined as the two parts of the mission statement. The mission statement focuses the employment of forces by providing subordinates with a clear understanding of the tasks to be accomplished and the reason or intent behind the actions to be taken. Since resources are often limited, commanders must distribute and organize those available forces to provide both unity of effort and economy of force for efficient employment. The unit assigned the responsibility for accomplishing the key mission is designated as the main effort. The main effort receives priority for support since the main effort represents the commander's primary bid to achieve decisive results. Units assigned the responsibility of the supporting effort furnish support so that the main effort can accomplish its mission. Since GCE units usually tailor the combat power of forces by task organizing, it is necessary to consider the support relationships that exist among various units taking part in the operation. Subordinate elements of a task organized GCE may be organic to the unit, attached to the unit, or tasked to provide support to the unit. These command relationships do not imply tactical missions or techniques of employment. A relationship among units that requires the supporting unit, while under the command of its parent headquarters, to support another unit designated as the supported unit. Therefore there are two types of support relationships in the GCE: direct and general. Because artillery units are part of the GCE, the following four support relationships apply to artillery units: Direct Support (DS), General Support (GS), Reinforcing (R), and General Support Reinforcing (GS-R).

(a) Direct Support (DS)

(1) Concept. The DS mission requires a supporting unit to furnish close and continuous support to a single supported unit. Units given a tactical mission of DS are not attached or under the command of the supported unit. The DS relationship is not established between combat and combat support units employed as separate maneuver elements because the parent commander of the supporting unit still retains command of the supporting unit.

(2) Support Relationships. The DS mission is the most decentralized of the support missions. DS creates a responsive, one-to-one relationship between supporting and supported units. The supported unit sends requests directly to the supporting unit. Generally, units in direct support collocate (situation dependent). The DS mission is usually assigned to provide the supported unit with dedicated support to accomplish urgent, unanticipated tasks. Assigning a supporting unit a DS mission is a common means of increasing the supported unit's combat power. Both the supported and supporting units must keep their respective higher headquarters informed of their operations and plans. However, the parent commander retains command of the supporting unit. The supported unit is relieved of the administrative and logistic burden imposed by the establishment of a command relationship, but receives the benefit of close, prompt support.

(3) Example. An engineer company (supporting unit) assigned a DS mission to an infantry regiment (supported unit) would be required to:

- Report directly to the commander of the supported unit and provide liaison personnel if required.
- Respond to the supported unit's priority of work and priority of effort taskings within the supported unit's zone of action or sector of defense.
- Establish direct communications between the supporting and supported unit.
- Answer requests for engineering support in priority from:
  - (1) Supported Unit
  - (2) Own engineer platoons
  - (3) Higher engineer headquarters

(b) General Support

(1) Concept. A GCE unit assigned a mission of general support supports the supported force as a whole.

(2) Support Relationship. The general support mission is the most centralized support relationship. The supporting unit commander retains full control over his organic assets and attached forces. Therefore, the parent commander retains complete authority over, and responsibility for, the operation of the supporting unit. He employs them in the most beneficial manner for the command as a whole.

A supporting unit given a GS mission is not required to establish separate communications or liaison from standard operations. However, the supporting unit must conduct coordination

with higher, adjacent, and supporting units to ensure proper integration within the force as a whole.

(3) Example. Combat support assets such as the Division's Reconnaissance Battalion employed in GS of the Marine Division. A GS relationship is usually assigned when centralized control of that force enables flexible employment of that forces assets and when the enemy disposition is relatively uncertain. GS units provide the GCE with immediately available support to influence the battle or to allocate to subordinate commands in order to influence widely separated actions. An example would be the Marine Division employing the teams of the Reconnaissance Battalion in the Division's Security Area. The supporting unit given a GS mission is required to plan assignments based on missions and priorities established by the parent higher headquarters.

Only artillery units use four categories of support which are different from the four categories of support used in JP 0-2. They are direct, general, reinforcing, and general support-reinforcing. Although DS and GS are similar to the traditional MAGTF definitions, there are some differences as listed below.

w**Direct Support**. The DS mission requires a unit to furnish close and continuous fires to a single supported unit, normally a regiment or separate maneuver battalion. The commander of an artillery unit with a DS mission ensures that his firing units are positioned to deliver fires in the zone of action/sector of the supported unit, that the fires have been planned effectively, and that he has continuous communications with the liaison team and FO teams located with the supported team. (See MCWP 3-16.1)

w **General Support.** The GS mission requires a unit to support the force as a whole and be prepared to support any subordinate element. The fires of a unit in GS are controlled by higher artillery headquarters. (See MCWP 3-16.1)

w**Reinforcing**

(1) Concept. A reinforcing mission requires one unit to augment the capabilities of another unit. Typically, a unit given a reinforcing mission will augment the capabilities of a similar unit. The reinforcing unit will receive tasks from both the reinforced unit and higher headquarters. Priority of support goes to the reinforced unit, but other tasks may be undertaken if they do not interfere with support of the reinforced unit. Responsibility for administration and logistical support of the reinforcing unit remains with its parent command. As in the direct-support mission, the relationship is one to one between the reinforcing and reinforced units.

(2) Support Relationship. If a supporting unit requires augmentation to meet supported unit requirements, the common commander can furnish additional capability by establishing reinforcing support with another supporting unit for a specific task, operation, or period of time. Since augmentation of ground units is most easily accomplished by attachment,

reinforcement is normally only used with indirect fire support agencies, principally artillery units. The reinforcing support relationship places no additional administrative burden associated with reassignment of personnel and equipment on either the unit being reinforced or the unit it is supporting. The unit assigned the reinforcing mission can reinforce only one unit at a time. The reinforced unit, however, may be reinforced by several other units. A unit may only reinforce a similar MAGTF unit. For example, an artillery unit can only reinforce another artillery unit since no other unit in the MAGTF can provide the same fire support capabilities. The relationship between reinforcing and reinforced units is the same as that for supporting and supported units. The higher headquarters of the reinforcing or reinforced unit does not perform detailed planning or routine coordination between the two units. However, both units must keep their respective higher headquarters informed of operations and plans. A reinforcing unit's area of operations includes that of the reinforced unit to the extent required for the support being required (see MCWP 3-16).

(3) Example. An artillery battalion reinforcing the fires of another artillery battalion would be required to provide the following:

w Establish a zone of fire which corresponds to the zone of fire of the reinforced unit.

w Establish communication and liaison with the reinforced unit.

w Furnish Forward Observers upon request of the reinforced unit.

w Position firing batteries per direction of the reinforced unit or position firing batteries as ordered by the higher artillery HQ

w Provide fires planned by the reinforced unit

w Answer calls for fire in priority from
(1) Reinforced unit
(2) Own field observers
(3) Higher artillery headquarters

w **General Support-Reinforcing**

(1) Concept. The general support-reinforcing mission requires the supporting unit to furnish support for the force as a whole while simultaneously augmenting the capabilities of another similar unit as a second priority. This type of support is only assigned to indirect fire support agencies, principally artillery units. This type assignment permits dedicated support to specific units, and does not deprive the entire force its required support. (MCWP 3-16).

(2) Support Relationship: This is the most flexible standard artillery tactical mission. An artillery unit with this mission will support the force as a whole and answer calls for reinforcing fires from a designated artillery unit in DS. Priority of fires of GS-R units is to the higher artillery commander unless otherwise specified. To increase responsiveness, a designated net (quick-fire channel) may be established between the GS-R unit and the reinforced DS unit.

(3) Example: An artillery battalion providing GS-R to an artillery regiment. The unit given a GSR mission is required to:

- Provide a zone of fire covers the zone of action of the supported unit to include the zone of fire of the reinforced unit.

- Furnishes forward observers upon request of the reinforced unit subject to prior approval of higher artillery headquarters.

- Positions firing batteries as directed by higher artillery headquarters or reinforced unit subject to prior approval by higher artillery headquarters.

- Responds to fires planned by the higher artillery headquarters.

- Establishes communications and liaison with the reinforced unit.

- Answer calls for fire in priority from
  (1) Higher Artillery Headquarters
  (2) Reinforced unit
  (3) Own observers

3. Aviation Combat Element Command Relationships

Central to the concept of employment for the Marine ACE is the philosophy of centralized command and decentralized control (see MCWP 3-2, *Aviation Operations*). This philosophy is based on two fundamental requirements of the ACE commander. First, the commander plans, directs, and coordinates all aspects of aviation employment for the MAGTF and, second, the commander optimizes the flexibility, versatility and responsiveness of aviation by allowing control of assets to be conducted by subordinate agencies. These agencies are responsive to the commander and in touch with the changing dynamics of the situation. Plans and orders are brief, and execution depends on the sound judgment of well-trained subordinates, their initiative, and their understanding of the commander's intent. This style of command and control supports rapid decision making and allows the ACE to maintain a high operational tempo.

It is important to understand that the command support relationship established for the ACE by the MAGTF commander is almost always "general support of the MAGTF". Because the ACE is organic to the MAGTF, the mission is inherent in the mission of the ACE in any MAGTF. This command relationship is established for several important reasons. The ACE inherently has limited resources to meet a high operational demand. Since availability of aviation assets for mission tasking rarely meets the demand, the MAGTF commander will keep the ACE in general support of the MAGTF. Marine Aviation in inherently able to fight or provide support throughout the MAGTF area of operations. The general support role ensures a synergistic effect to the overall force and the most efficient and effective allocation of aircraft to the MAGTF. This process is orchestrated through the ATO cycle, allowing flexible and prioritized tasking. By using and completing the ATO cycle, planners can ensure that finite aviation assets are allocated to achieve maximum effect with correct prioritization based on the main effort.

Within the ACE, the terms general support and direct support are used only conceptually, in that the ACE is in general support of the MAGTF, and some sorties or mission may be flown to support a particular MAGTF unit. Formal command relationship terms (such as would be assigned an artillery battalion or CSSD) are not used with the ACE.

(a) Direct Support.

(1) Concept. A formal direct support command relationship rarely exists between ACE subordinate units and other MAGTF units. While an individual sortie or mission may be executed to support a designated MAGTF unit, there is almost never a formal command relationship of direct support established. This support relationship usually exists only within the context of mission tasking, where individual sorties are allocated for a specific MAGTF unit conducting a particular mission (usually of short duration). Since these sorties do not represent subordinate units of the ACE, the ACE general support command relationship inherent in the task organization of the MAGTF does not change. However, low altitude air defense units may be assigned such relationships during joint, combined, or multinational operations.

If aviation support is required for a long or complex mission such that detailed coordination and prior planning must be conducted prior to execution, the aviation mission commander may be assigned a direct support mission. With the designation of an aviation unit to the direct support role come the requirement to establish; direct liaison, direct communications to receive critical information, coordination of local security and logistical support from the support unit. In addition, LAAD units that must be dispersed are often assigned a direct support mission to provide a defense within the supported commander's zone or area of operations.

(2) Support Relationships. An ACE unit assigned a direct-support role is immediately responsive to the needs of the supported unit. It furnishes continuous support to that unit and coordinates its operations to complement the concept of operations of the

supported unit. The direct-support role creates a one-to-one relationship between supporting and supported units. The higher headquarters of the supporting and supported units become involved only on a by exception basis. However, each unit must keep its higher headquarters informed of its operations and plans. The supported unit requests directly to the supporting unit.

(3) Examples. An attack squadron in direct support of one subordinate unit ofthe GCE. A helicopter lift in direct support of a maneuver battalion. A low altitude air defense section in direct support of an infantry battalion.

(b) General Support.

(1) Concept. The ACE will be assigned the role of general support and supports the MAGTF commander's main effort.

(2) Support Relationships. The general support command relationship is a formal relationship established between the MAGTF and ACE commanders. This relationship provides the ACE commander the most flexible, efficient and effective means of apportionment, allocation and prioritization of all aviation assets in support of the MAGTF. The ACE commander retains full control over his subordinate units, including establishing the priority of their efforts. This prevents supporting aviation units from dealing directly with various GCE/CSS agencies. Sorties allocation will be apportioned indirectly through the ATO cycle process to requesting units. For example, a GCE/CSSE agency will submit air support requests through the direct air support center or tactical air command center. The ACE commander may control how and when he fills those requests as long as he meets the MAGTF commander's apportionment and prioritization guidance.

(3) Example. The ACE in general support of the entire MAGTF. (This allows all aviation units to provided an inherent synergistic effect by mission tasking through the ` ATO cycle process.

4. Combat Service Support Command Relationships

Combat service support is the activity which actually provides services and supplies to the combat forces. Central to the concept of employment for the CSSE is centralized control and decentralized execution. The CSSE manages and provides the required support through task organization of the CSSD. The CSSD is tailored to the requirements of supported units. The CSSE is always in general support of the MAGTF and executes its mission through task organization and command relationship assignment.

(a) Direct Support

(1) Concept. Direct support is “a mission requiring a force to support another specific

force and authorizing it to answer directly the supported force's request for assistance." (Joint Pub 1-02)

(2) Support Relationships. A CSS unit that is in direct support of another unit is immediately responsive to the needs of the supported unit. It furnishes continuous support to that unit and coordinates its operations to complement the concept of operations of the supported unit. A one-to-one support relationship is created between supporting and supported units. The direct-support misssion is the most decentralized of the four standard missions. The higher headquarters of the supporting and supported units become involved only on an exception basis. The supported unit sends requests directly to the supporting unit.

(3) Examples. The following subparagraphs analyze considerations for assigning the direct-support mission either to permanently organized or task-organized CSS units. The unit to which the direct-support mission is assigned may be either a single-function unit or a multifunction unit.

a. Permanently Organized Units. The CSSE commander may assign the direct-support mission to any of his permanent subordinate organizations. For example, he may give this mission to his engineer or motor transport organizations. Permanent CSS organizations may provide direct support to any other element of the MAGTF, although certain CSS organizations such as the supply and maintenance battalions are not likely to have a direct-support mission.

b. Task-Organized Units. The CSSE commander may assign the direct-support mission to a task-organized unit such as a CSSD. CSSDs are most often in direct-support. The commander must ensure that the task-organized unit has enough assets to accomplish the direct-support mission. Of particular concern is the ability to establish and maintain communications with the supported unit.

(b) General Support

(1) Concept. A CSS unit that is in general support, supports the MAGTF under the direction of the CSSE commander.

(2) Support Relationships. The general support mission is the most centralized mission. The CSSE commander retains full control over his subordinate units, including establishing the priority of their efforts. This does not prevent supported units from dealing directly with various CSS agencies. For example, they submit requisitions directly to the supply source. However, the CSSE commander may control how and when he fills those requisitions. He follows the priorities and allocations of the MAGTF commander. In certain cases, the MAGTF commander may stop the issue of supplies or items of equipment without prior approval of the CSSE

commander. In other cases, he might specify a priority of issue for certain items or may assign a specific quantity to each unit.

(3) Examples. The MAGTF CSSE always has a general support mission. The CSSE commander, however, may assign different missions to his subordinate units consistent with the requirements of the tactical situation. The concept of logistics and CSS, found in Annex D of the MAGTF OPORD specifically addresses this topic. It tells precisely how to satisfy the requirements of a particular tactical situation. The following paragraphs give examples of general support missions.

a. Permanently Organized Units. The CSSE commander may assign the general support mission to any of his permanent subordinate organizations. For example, the FSSG commander may give the engineer support battalion the mission of general support of the MAGTF. In this situation, the battalion would provide support based on the priorities of the MAGTF commander. The CSSE commander would not assign this mission without prior coordination with and approval from the MAGTF commander.

b. Task-Organized Units. The CSSE commander may assign the general support mission to a task-organized unit such as a CSSD or LFSP. Task-organized CSS units must have sufficient assets to perform the functions associated with this mission. Of particular concern is the ability to establish and maintain communications and liaison with the supported unit and parent organization.

2102. Other Authorities

(a) Administrative Control (ADCON)

This authority is used both internal and external to the MAGTF.

1. Concept. As per JP 1-02, ADCON is defined as the direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations.

2. Relationship. ADCON indicates that a unit is under conditional control of another commander with respect to administrative matters. The specific degree of administrative control is frequently specified in the order directing assignment to such status.

3. Example. A tank company is attached to an infantry battalion less ADCON (personnel and logistics is retained by the tank battalion).

(b) Direct liaison authorized (DIRLAUTH).

(1) Concept. That authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command.

(2) Relationship. Direct liaison authorized is more applicable to planning than operations and always carries with it the requirement of keeping the commander granting direct liaison authorized informed. Direct liaison authorized is a coordination relationship, not an authority through which command may be exercised.

(3) Example. A MEF commander gives DIRLAUTH to a division commander to consult with a UN relief agency for a humanitarian relief planning.

(d) Technical Direction.

(1). Concept. The *Marine Corps Manual* describes another relationship that is used exclusively within the Marine Corps—the concept of technical direction. This is the performance of a specialized or professional service, or the exercise of professional guidance or direction, through the establishment of policies and procedures in technical matters.

(2). Relationship. Staff channel is the term used to describe the procedures by which the commander issues instructions to his staff and through which staff officers submit recommendations and provide information to the commander. Staff channel also describes the interaction between staff officers and their counterparts at higher, adjacent, and subordinate headquarters. These staff-to-staff contacts are for coordination, cooperation, and technical direction only. Higher headquarters staff officers exercise no command authority over subordinate headquarters staffs. Staff officers must always respect the command authority and prerogatives of the commanders concerned. External staff coordination is a staff function that in no sense supplants the normal chain of command. When appropriate, matters that have been coordinated between unit staffs should be formalized by official correspondence through the chain of command. Chapter 3 will discuss in detail the duties and responsibilities of staff officers.

(3). Example. For example, the MEF G-6 provides overall technical direction for MAGTF communications networks. With the complexity of modern weapons and communications and information systems, the availability of technical direction becomes a key concern. Technical direction may include the following:

- Establishing standards or procedures for performing a technical function
- Providing professionally trained and qualified personnel to perform a technical function
- Providing professional advice, guidance, or assistance
- w Performing a technical function as a service to the command

Section II
Navy/Marine Corps Command Relationships

The Marine Corps and the Navy are inextricably joined together as the Nation's naval forces. The relationship is strong, but not without differences in perspectives on fundamental issues. Since command relationships for amphibious operations were doctrinally established just prior to World War II, they have been the subject of intense debate between the two Services.

2201. Amphibious Command Relationships.

(a). Concept. Joint Publication (JP) 3-02, *Joint Doctrine for Amphibious Operations*, published 08 October 1992, is the overarching doctrine on the conduct of amphibious operations and defines command relationships between amphibious forces. JP 3-02 states amphibious command relations are unique in that during the planning phase, the Commander Landing Force (CLF) is co-equal to the Commander Amphibious Task Force (CATF). Once embarked, the landing force is under the operational control (OPCON) of CATF. If a change in the mission occurs after commencement of the operation or if an amphibious operation is initiated from an afloat posture, coequal planning relationships, either as described above or as specified in an initiating directive will apply.

World War II provided the basis for the command relationships in the October 1992 edition of JP 3-02. During that period, the rationale was that in order to achieve *unity of effort* within the amphibious force, *unity of command* was required by the CATF. The operational environment has changed dramatically since World War II, with Marine Corps componency established in 1992, routine forward presence by Amphibious Ready Groups and Marine Expeditionary Units, amphibious forces executing operations other than war (OOTW), often a greater littoral threat to landing forces rather than Navy forces executing OOTW, and the maturity of joint command relationships. In many missions, the landing force has assumed the predominant role in the accomplishment of the amphibious force mission.

JP 3-02 is under revision to address these deficiencies in command relationships. The October 1992 edition reflects neither the operational command relationships in use by amphibious forces or the command relationships to support *Operational Maneuver from the Sea (OMFTS)*. The Marine Corps position is that the establishing authority of an amphibious operation should doctrinally have the joint command relationship options of support, tactical control (TACON), and OPCON as prescribed in JP 0-2, *Unified Action Armed Forces* (UNAAF). Based on Navy and landing forces being complementary rather than similar forces, composed of two different Services, and normally commanded by officers of equivalent rank, a support relationship should normally be established between Marine and Navy forces. *Unity of command* is provided by the establishing authority of the amphibious operation and *unity of effort* occurs between the Navy amphibious commander and the landing force commander.[1]

[1] The Marine Corps has proposed the deletion of the titles of CATF and CLF in the revised edition of JP 3-02 to reflect the change in command relationship options. The new titles for these commanders are the subject of ongoing discussions with the Navy.

(b) Support Relationships. A supported-supporting command relationship between the Navy amphibious commander and the landing force commander provides the requisite command authority to accomplish the vast majority of amphibious missions. There are few instances where the degree of control inherent in TACON or OPCON is required. A common superior will make the supported-supporting designations on the basis of the mission. The landing force commander becomes the supported commander when he is responsible for the preponderance of the amphibious force mission. The supported commander, unless otherwise specified, has the authority to exercise general direction of the supporting effort, to include the designation and prioritization of targets or objectives, timing and duration of the supporting action, and other instructions necessary for coordination and efficiency. The supporting commander determines the forces, tactics, methods, procedures, and communications to be employed in providing this support. The conditions for the shift of the supported and supporting relationship is determined by these two commanders during the planning process, briefed, and approved by the establishing authority. Normally, this shift is an event driven circumstance. The establishing authority resolves any differences between the two commanders.

(c) Examples.

1. The landing force commander may be designated the supported commander during a noncombatant evacuation operation (NEO). The commander of the Navy amphibious force would be the supporting commander for the NEO.

2. During an amphibious raid or assault, the commander of the Navy amphibious force may initially be designated the supported commander if there is a maritime threat. As the supported commander, he would have the authority to overcome any Naval threat in the operational area and provide general direction to the landing force to ensure the timing of assault waves (air and surface).

3. However, control of the landing force would remain with the landing force commander. Once the assault waves have landed, the landing force mission would assume priority and the landing force commander would become the supported commander. He would remain the supported commander until completion of the amphibious operation, or his forces are backloaded on the amphibious ships.

4. In a raid, the commander of the Navy amphibious force may reassume the supported commander role for the withdrawal out of the operational area.

Maritime Prepositioning Force (MPF) Command Relationships

1. Concept. In MPF operations, the establishing authority may be delegated OPCON or TACON of the MAGTF Commander and CMPF by the combatant commander. The establishing authority is responsible for establishing command relationships and the command and control structure for the MPF operation. The command relationship established between the MAGTF Commander and CMPF is a key decision, and should provide for unity of effort, simplicity and flexibility. Ultimately, the command relationship between the MAGTF Commander and CMPF should be predicated upon the establishing

authority's assessment of mission requirements. It should provide a clear, well defined, and easily understood command channel with the requisite authority to prosecute the MPF operation in a timely, efficient, and effective manner.

2. Support Relationship. While the establishing authority normally has OPCON or TACON of subordinate forces, the relationship between the CMPF and MAGTF Commander is normally TACON or Support.

a. Tactical Control Command Relationships. TACON may be delegated to, and exercised at any level at or below the level of combatant command. (Joint Pub 0-2). TACON is typically limited to the detailed and usually local direction and control of forces necessary to accomplish assigned taskings. TACON provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets. TACON can be delegated by the establishing authority to subordinate commanders within the MPF.

b. Support Command Relationships. Each subordinate element of the joint force can support or be supported by other elements. A supporting relationship is established by a superior commander between subordinate commanders when one organization should aid, protect, complement, or sustain another force. (Joint Pub 3-0). A Support command relationship between the MAGTF Commander and the CMPF may be appropriate when the establishing authority decides that the mission and associated taskings do not require one force to have TACON of the other. The establishing authority is responsible for ensuring that both the supported and supporting commander understand the degree of authority the supported commander is granted. (Joint Pub 0-2).

3. Examples.

a. Tactical Control Command Relationships. A TACON command relationship between the MAGTF commander and CMPF may be appropriate when the establishing authority decides that, because of the threat, timing, or the nature of the mission, it is necessary, for at least part of the operation, for one element to have a significant degree of control over the other.

b. Support Command Relationships. Since the essential purpose and primary focus of an MPF operation is the establishment of a MAGTF fully prepared to execute an employment mission, then in a broad sense CMPF supports the MAGTF. The establishing authority may decide that a specified Support relationship between the MAGTF Commander (supported) and the CMPF (supporting) should be established for the duration of an MPF operation. However, there may be certain requirements in a phase of a MPF operation that may mitigate against such a generality, and may require the Support relationship to change from phase to phase. For example, during the Movement phase CMPF relies on the MAGTF Commander for coordinating the air transportation of the NSE. In another, the CMPF's critical responsibility during the Arrival and Assembly phase is the off-load of the MPSRON, a tasking that cannot be accomplished without assistance from MAGTF elements such as the Landing Force Support Party. In these two instances the MAGTF is providing support to the CMPF. While a Support relationship is a viable command authority, it is incumbent upon the

establishing authority to make clear in the initiating directive the requirements for support, who is supporting whom, and the parameters for transitioning this command relationship. It should also include:

a. The forces and other resources allocated to the supporting effort.
b. The time, place, level, and duration of the supporting effort.
c. The relative priority of the supporting effort.
d. The authority, if any, of the supporting commander to modify the supporting effort in the event of exceptional opportunity or an emergency.
e. The degree of authority granted to the supported commander over the supporting effort.

2202. Marine Expeditionary Unit Command Relationships. Marine Corps Order (MCO) 3120.9A prescribes the following command relationships for the Marine expeditionary unit (MEU).

> When the MEU is in CONUS [continental United States] and not embarked aboard ship, the Marine Expeditionary Force Commander exercises OPCON of the MEU. When embarked aboard ARG [amphibious ready group] ships, the Fleet Commander in whose area of operation the ARG is operating normally will exercise OPCON of the MEU during routine activities. During contingencies, command relationships will be prescribed in the alert, warning, and/or execute order. The MEU may be designated a separate component within a Joint Force or designated as the landing force of an Amphibious Task Force in accordance with reference (h) (Joint Pub 3-02). It is considered unacceptable for the MEU Commander to be designated as a functional warfare commander within the Navy Composite Warfare Commander construct; nor is it acceptable for the MEU to be embedded in a command relationship that fails to provide the Commander, Landing Force the decision-making authority and span of control prescribed in Joint doctrine for landing force operations.

Typically, when units within the Naval service are transferred, the term change of operational control (CHOP) is used. CHOP is defined as the date and time (coordinated universal time) at which a force or unit is reassigned or attached from one commander to another where the gaining commander will exercise operational control over that force or unit.

Section III
Joint/Componency Command Relationships

It is important that command relationships be thought out in advance and made clear to all involved in the process. The CINC OPLANS and CONPLANS will often provide a concept for command relationships in that theater, including units assigned. As per JP 0-2, assign is to place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel.

2301. Joint Command Relationships and Levels of Authority. Command includes the authority and responsibility for effectively using available resources and for planning, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. A command

relationship defines the interrelated responsibilities between commanders as well as the authority of those commanders. Joint Pub 0-2, *Unified Action Armed Forces (UNAAF)*, prescribes four command relationships to be used by U.S. military forces—combatant command (COCOM), operational control (OPCON), tactical control (TACON), and support. These command relationships and levels of authority, although authoritative, must be adapted to meet the requirements of the mission. Collectively, they provide the flexibility necessary to organize forces to respond to all situations.

a. Combatant Command.

Concept. COCOM is the nontransferable command authority established by Title 10, Armed Forces, *United States Code*, Section 164, and exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense.

Support Relationship. COCOM is the authority of a combatant commander to organize and employ commands and forces, assign tasks, designate objectives, and give authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. COCOM is normally exercised through the commanders of subordinate organizations—subordinate joint force commanders (JFCs) and Service and/or functional component commanders. COCOM includes directive authority for logistic matters, although the Services will retain responsibility for logistic and administrative support of their assigned or attached forces. OPCON is inherent in COCOM.

Example. Because COCOM authority cannot be delegated by the combatant commander, it is not available to MAGTF commanders.

b. Operational Control.

Concept. OPCON is the command authority that may be exercised by commanders at any echelon at or below the level of COCOM and can be delegated or transferred to subordinate commanders.

Support Relationship. OPCON is inherent in COCOM and is the authority to organize and employ commands and forces—assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. OPCON includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. OPCON normally provides full authority to organize commands and forces and employ those forces as the commander in OPCON considers necessary to accomplish assigned missions. It does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training.

Example. Generally, OPCON applies to larger units in a joint force organization, such as a Marine expeditionary force (MEF) assigned OPCON to a Navy fleet commander. The fleet

commander does not direct the separate employment of either the ground or aviation combat elements of the MEF.

c. Tactical Control.

Concept. TACON is the "command authority over assigned or attached forces or commands, or military capabilities or forces made available for tasking." (Joint Pub 1-02)

Relationship. TACON is limited to the detailed and usually local direction and control of movements or maneuvers necessary to accomplish assigned missions or tasks. TACON may be delegated to and exercised by commanders at any echelon at or below the level of COCOM. Like OPCON, TACON does not include directive authority over administrative or logistic support. TACON is inherent in, but more limited than, OPCON. TACON does not provide for organizational authority. TACON is the command authority typically exercised by functional component commanders over military capabilities or forces made available for tasking

Example. A MEF has TACON over an allied infantry regiment. The MEF commander further assigned the allied unit TACON to a Marine Corps division commander.

d. Support.

Support is a command authority. A support relationship is established by a superior commander between subordinate commanders when one organization should aid, protect, complement, or sustain another force. Each support relationship is tailored by the superior commander to fit the situation at hand. Because the nature of the support relationship is flexible by design, a clear definition of the supporting relationship is important. The establishing authority (the common superior commander) is responsible for ensuring that both the supported and supporting commanders understand the degree of authority that the supported commander is granted. Normally, this will be accomplished through an establishing directive delineating the purpose of the support relationship, the effect desired, and the scope of the action to be taken including the following:

- The forces and other resources allocated to the supporting effort
- The time, place, level, and duration of the supporting effort
- The relative priority of the supporting effort
- The authority, if any, of the supporting commander to modify the supporting effort
- The degree of authority granted to the supported commander over the supporting effort.

Unless limited by the establishing directive, the supported commander will have the authority to exercise general direction of the supporting effort. However, the supporting commander determines the forces, tactics, methods, procedures, and communications to be employed. The supported commander should ensure that the supporting commander understands the assistance required. The supporting commander will then provide the assistance needed, subject to the supporting commander's existing capabilities and other assigned tasks. When the supporting commander cannot fulfill the needs of the supported commander, the establishing authority will be notified. The supporting commander will coordinate with the supported commander and assist in planning the integration of the support into the overall effort. Joint Pub 0-2 identifies four categories of support—general, direct, mutual, and close.

w **General support**

Concept. GS is the action that is given to the supported forces as a whole rather than to a particular subdivision thereof.

Relationship. The general support mission is the most centralized support relationship. The supporting unit commander retains full control over his organic assets and attached forces.

Example. A Marine LAR unit might be placed under general support of a joint force or to an Army force to provide security during initial buildup of land forces in theater.

· **Mutual support**

Concept. The action that units render each other because of their assigned tasks, their position relative to each other, and their inherent capabilities.

Relationship. Mutual support is the most responsive category of support. In arranging mutual support between military services, the peculiar capabilities of each service for the support of the requirements of the other services must be utilized.

Example. A LAAD platoon provides mutual support to a Patriot Battery in an area where terrain masks the Partiot Battery's coverage.

· **Direct support**

Concept. DS is a mission requiring a force to support another specific force and authorizing it to directly answer the supported force’s request.

Relationship. The DS mission is the most decentralized of the support missions. DS creates a responsive, one-to-one relationship between supporting and supported units.

Example. Army field artillery may be placed in direct support of a Marine Division when organic artillery is insufficient to support the commander's scheme of maneuver.

- **Close support**

Concept. The action of the supporting force against targets or objectives that are sufficiently near the supported force as to require detailed integration or coordination of the supporting action with fire, movement, or other actions of the supported force.

Relationship. Close support is most often used in aviation.

Example. A MAGTF provides fire support for a combined force that is located to its front.

Other Terms

4. Levels of Authority. In addition to the four command relationships, Joint Pub 0-2 identifies three other levels of authority—administrative control (ADCON), coordinating authority, and direct liaison authorized (DIRLAUTH).

(1) Administrative Control.

a. The definition for ADCON used in the Marine Corps and the Joint community is the same. ADCON is defined as the direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations.

b. Example: MAGTF commanders will normally have ADCON over all organic, assigned, and attached Marine Corps forces (MARFOR) but not over assigned or attached forces from the other Services. ADCON is subject to the command authority of combatant commanders.

(2) Coordinating Authority.

a. Concept. A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Military Departments or two or more forces of the same Service.

b. Relationship. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised.

c. Example. An Marine aviation group commander would be granted coordinating authority to work with the Army and Air Force aviation units at a forward deployed location to establish an forward operating base.

(3) Direct Liaison Authorized. The definition for direct liaison authorized used in the Marine Corps and the Joint community is the same. DIRLAUTH is defined as that authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command.

2302. Component Command Relationships. The establishment of component commands within a joint force and the relationships between the component commands and the forces assigned to the component commands is a complex topic. Joint Pub 0-2 and Marine Corps Warfighting Publication (MCWP) 0-1.1, *Componency*, contain a more in-depth treatment of componency issues. It is important that Marine at all levels of the MAGTF understand the basics of Marine componency and the effect it has on the relationships among the units of a Join t force. Proper establishment of command relationships within the Joint force can foster effectiveness.

(a) Joint Forces. To address the command relationships between the MAGTF and the component commanders of a joint force, the basic characteristics and structure of a joint force must be understood. The three levels of joint forces are unified commands, subordinate unified commands, and JTFs. Unified commands are combatant commands and are established in accordance with the Unified Command Plan by the President through the Secretary of Defense with the advice and assistance of the CJCS.[2] A unified command has a broad and continuing mission and is composed of significant components of two or more Military Departments. The unified commander exercises COCOM over all assigned forces and, normally, OPCON over attached forces. When authorized through the CJCS, commanders of unified commands may establish subordinate unified commands (e.g., United States Forces, Korea, is a subordinate unified command established by the Commander in Chief (CINC), United States Pacific Command). Subordinate unified commanders exercise OPCON over all assigned forces and, normally, over all attached forces. A JTF may be established by the Secretary of Defense, a combatant commander, a subordinate unified commander, or an existing JTF commander. A JTF is normally established to accomplish a mission with a specific limited objective and is dissolved when that mission is accomplished. The commander of a JTF exercises OPCON over all assigned forces and, normally, over all attached forces.

The joint force commander (JFC) organizes his forces in the most effective manner to accomplish the mission. The JFC may conduct operations through Service components, functional components, or some combination of the two. Usually, the JFC organizes the force in a combination of Service and functional componency. The combination of Service and functional components takes advantage of the benefits of Service componency while allowing

[2] Specified commands are also COCOMs that have a functional mission. However, there are no specified commands currently in existence.

the combatant commander to centralize resources to accomplish specifications. Regardless of how the JFC organizes the assigned forces, if Marine forces are included, there will be a Marine Corps Service component with responsibility for administrative and logistic support of all Marine forces.

(1) Service Component Commands. The Service component command will consist of the component commander and all of the Service forces that have been assigned to the joint force. Because administration and logistics are Service responsibilities, joint forces always include Service component commands that exercise ADCON over the forces of that Service that have been assigned to the joint force. The JFC may also elect to conduct operations through the Service component commanders or, at lower echelons (e.g. JTF level), Service force commanders. Operations will normally be conducted through the Service component when the situation requires organizational integrity of Service forces. Conducting operations through Service components fully exploits the capabilities and experience that the individual Service can bring to a joint command by allowing Service organizations to function as they were designed and trained. Figure 2-1 depicts a joint force organized to conduct operations through Service component commands.

(2) Functional Component Commands. The JFC may establish functional component commands to conduct operations. Functional component commands are employed when forces from two or more Military Departments must operate in the same dimension or medium or there is a need to accomplish a distinct aspect of the assigned mission. Joint

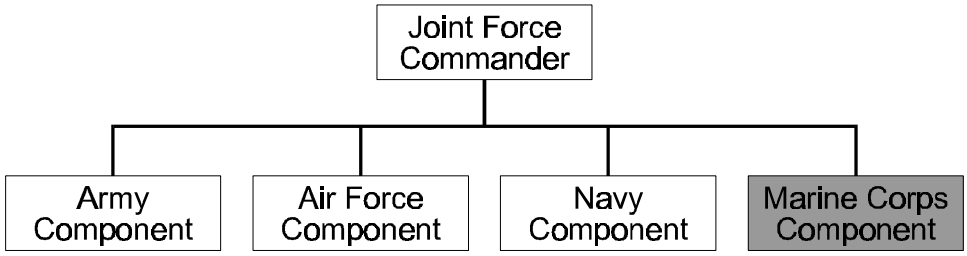


Figure 2-1. Joint Force With Service Components

force land, air, maritime, and special operations component commands are examples of functional component commands.

Normally, the Service component commander with the preponderance of forces to be tasked to accomplish a particular function will be designated as the functional component commander. However, in selecting a functional component commander, the JFC must also consider the command and control capabilities of the Service components. A Service

component commander designated as the functional component commander retains Service component responsibilities. Figure 2-2 portrays an example of a joint force organized to conduct operations through functional components.

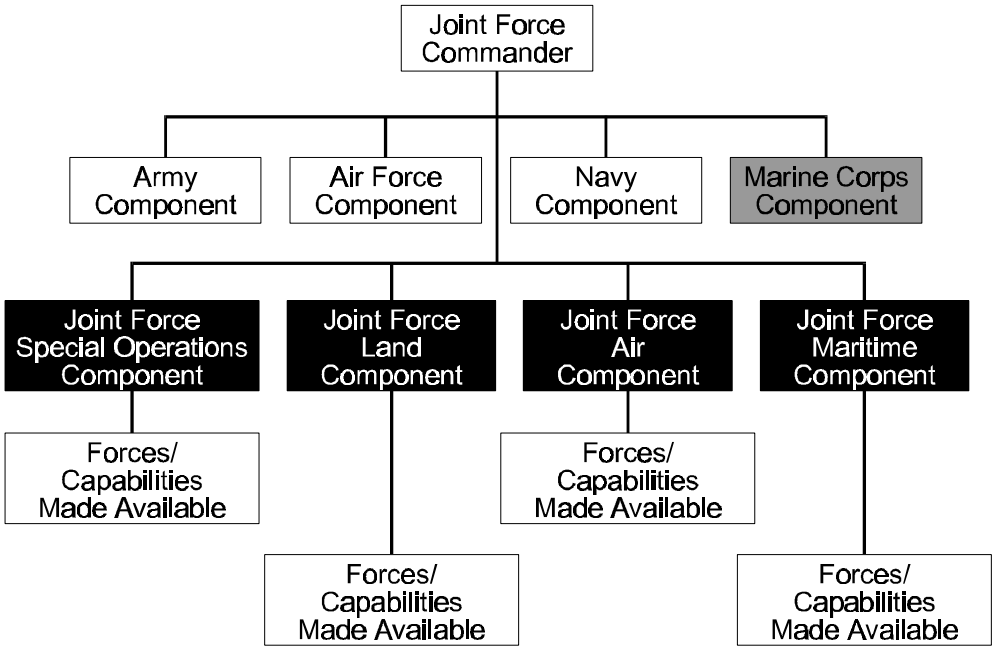


Figure 2-2. Joint Force With Functional Components

The responsibilities and authority of a functional component command must be assigned by the JFC. The establishment of a functional component commander will not affect the command relationships between Service component commanders and the JFC. The JFC must designate the military capability that will be made available by Service component commanders for tasking by the functional component commander and the command relationship(s) that the functional component commander will exercise. The appropriate command relationship will depend on the overall situation and the nature of the forces or capability involved. Joint force special operations component commanders, land component commanders, and maritime component commanders normally have OPCON of assigned forces while, as discussed previously, a JFACC is normally delegated TACON of aircraft sorties or other military capability made available. In this regard, all Marines should be aware of the following policy for command and control of Marine Corps aviation promulgated in chapter 4 of Joint Pub 0-2:

> The MAGTF commander will retain OPCON of organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission. The MAGTF commander will make sorties available to the JFC, for tasking through the JFACC, for air defense, long-range interdiction, and long-range reconnaissance. Sorties in excess of MAGTF direct support

requirements will be provided to the JFC for tasking through the JFACC for the support of other components of the joint force or the joint force as a whole. Nothing herein shall infringe on the authority of the geographic combatant or joint force commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the reapportionment and/or reallocation of any Marine Air-Ground Task Force (MAGTF) TACAIR [tactical air] sorties when it has been determined by the joint force commander that they are required for higher priority missions), and direct coordination among the subordinate commanders to ensure unity of effort in accomplishment of the overall mission, or to maintain integrity of the force.

The JFC may reapportion or reallocate MAGTF TACAIR sorties when they are required for higher priority missions in support of the JFC's campaign. Although the JFC may assign the reapportioned or reallocated air to the JFACC for use, the JFACC does not have the authority to reapportion or reallocate MAGTF TACAIR sorties.

Note: Sorties provided for air defense, long-range interdiction, and long-range reconnaissance are not "excess" sorties and will be covered in the air tasking order. These sorties provide a distinct contribution to the overall joint force effort. The JFC must exercise integrated control of air defense, long-range reconnaissance, and interdiction aspects of the joint operation or theater campaign. Excess sorties are in addition to these sorties.

(3). Combination of Service and Functional Components. The most common method the combatant commander uses to organize his available forces is a combination of Service and functional componency. The following figure is an example of a combatant command organized with the four Service forces commanded by Service component commanders along with a special operations component

The combination of Service and functional components takes advantage of the benefits of Service componency while allowing the combatant commander to centralize certain func-tions to achieve his strategic or operational objective. In these cases, the Service components retain command of their forces, while providing forces and capabilities through the combatant commander to the functional component commander. Regard-less of how the combatant commander organizes his assigned or attached forces, if Marine Corps forces are included there will be a Marine Corps component. See

figure 2-3 for an example of a joint force designed to conduct operations through four Service component and a special operations component.

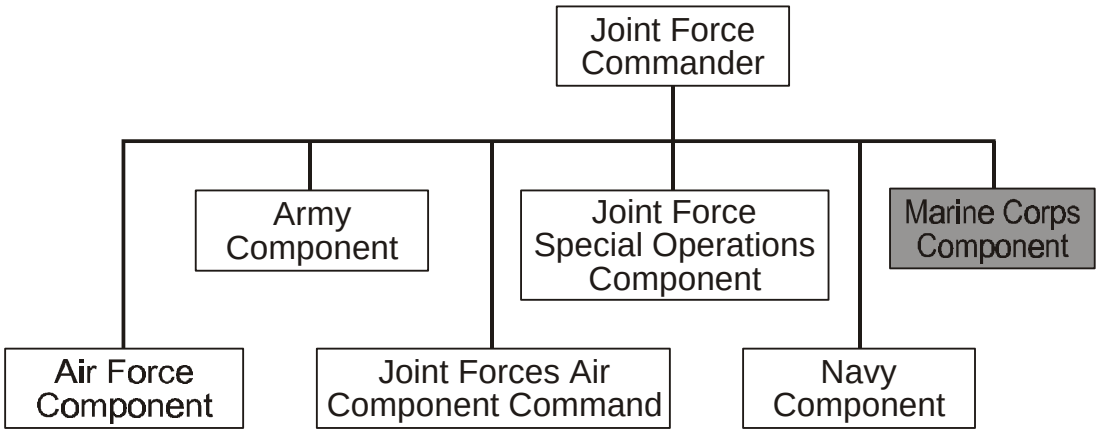


Figure 2-3. Joint Force With Service and Functional Components

(b) Marine Air-Ground Task Force Component Command Relationships. A Marine Corps component commander's assigned Marine Forces will normally include one MAGTF and may, depending on the scope of the assigned mission, include a Marine Corps logistic command (MLC) and a rear area coordinator.[3] The Marine Corps component can also include forces from other Services and nations. The Marine Corps component commander will always exercise ADCON over the assigned MAGTF and, if operations are being conducted through Service components, will exercise OPCON as well. If operations are being conducted through functional component commanders, the MAGTF commander could be OPCON to either the JFMCC or the JFLCC, depending on the nature and phase of the operation. (The MAGTF commander could also be the JFLCC or JFMCC). For example, a MAGTF might conduct an amphibious operation under the OPCON of the maritime forces component commander and then chop OPCON to the land forces component commander or MARFOR.

Section IV.
NATO Command Relationships

1. Concept. The North Atlantic Treaty Organization (NATO) was founded in 1949 as a defense alliance to protect member nations against the Soviet Union. There are currently 19 member nations in NATO. Marines should be aware that the NATO doctrinal measures are sometime different than US Joint Doctrine. Where no body of doctrine exists, it is important that modifications and restrictions to extent of authority must be clearly spelled out and mutually understood by all nations involved.

[3] Normally, an MLC and rear area coordinator would be established only to support MARFOR conducting sustained operations ashore in a major theater war. OMFTS operations and smaller-scale contingencies would not normally involve these organizations.

2. Relationships. The following list of terms describes NATO command relationships. It must be noted that some of the terms are used are the same as US Joint definitions and some of these terms only exist in NATO.

These NATO definitions do not differ greatly from established US definitions of operational control measures. NATO, using the standardization agreement (STANAG) process, has developed, staffed, and gained NATO approval of these definitions, which ensures unambiguous use of these measures, ensuring operational interoperability.

Full Command (NATO)

The NATO equivalent of USCOCOM is full command. It is the military authority and responsibility of a superior officer to issue orders to subordinates. It covers every aspect of military operations and administration and exists only within national services. It follows that no NATO or other MNF commander will have full command over other national forces.

Operational Command (NATO OPCOM)

In NATO, OPCOM is the authority granted to a commander--

- ·To assign missions or tasks to subordinate commanders.
- ·To deploy units.
- ·To reassign forces.
- ·To retain or delegate OPCON and/or TACON as deemed necessary.

OPCOM does not include responsibility for administration or logistics and may denote the forces assigned to a commander. OPCOM allows a commander to specify missions and tasks, assign separate employment to components of assigned units, and reassign forces away from his own force. It does not carry the authority to disrupt the basic organization of a unit to the extent that it cannot readily be given a new task or be redeployed elsewhere. In this area, NATO OPCOM coincides with US OPCON and its authority to *organize and employ commands and forces*. OPCOM allows changing overall organizations and command relationships, but the basic building blocks remain intact. Short of full combat operations, to meet an attack upon NATO territory, US forces will not normally fall under OPCOM of foreign commanders.

Operational Control (NATO OPCON)

OPCON is a defined NATO term. In NATO, OPCON is the authority delegated to a commander to direct forces assigned so that the commander may accomplish specific missions or tasks that are usually limited by function, time, or location. It further includes the deployment of units concerned and the retention or delegation of TACON to those units. Neither does it, of itself, include administrative or logistical control. OPCON is more limited than OPCOM. OPCON does not include the authority to

reassign forces or employ a formation, or any part of it, other than on the assigned task, or to disrupt its basic organization so that it cannot readily be given a new task or redeployed elsewhere. Commanders must exercise caution not to interchange US and NATO terms.

Tactical Command (NATO TACOM)

TACOM is defined as the authority delegated to a commander to assign tasks to forces under his command to accomplish the mission assigned by higher authority. TACOM is narrower in application than OPCOM but includes the authority to delegate or retain TACON.

Tactical Control (NATO TACON)

Both NATO and US joint doctrine share the same definition for TACON. The CINC uses TACON to limit the authority to direct the tactical use of combat forces. TACON is the authority normally limited to the detailed and specified local direction of movement and maneuver of the tactical force to accomplish an assigned task. TACON does not provide organizational authority or administrative and support responsibilities. The US service component continues to exercise these authorities. TACON differs from TACOM in that TACON involves only the necessary control of movements and maneuvers to accomplish a previously assigned mission.

3. Example. MARFOR as Part of NATO

Marine Corps Forces may have the opportunity to serve with North Atlantic Treaty Organization forces in Allied Joint Operations. These may involve air, space, maritime, amphibious, land or special forces dimensions and government or civil agencies. These forces will typically be organized into Combined Joint Task Forces under the command of a Joint Force Commander.

The MAGTF could also retain OPCON/TACON and employ the multinational/combined forces as a separate element, almost as another MAGTF element. This section lists the various command relationship definitions on which the command and control of NATO operations are based. The MAGTF may also pass OPCON/TACON of the multinational/combined force to one or more elements of the MAGTF. For example, a coalition infantry brigade chopped OPCON to the MEF which then passes OPCON to a Marine Division. Command relationships must be clear and specific, especially with regards to logistics, fire support and communications and information systems. For further information, see draft AJP-01 (A). Figures 2-4 and 2-5 illustrate NATO command relationships.

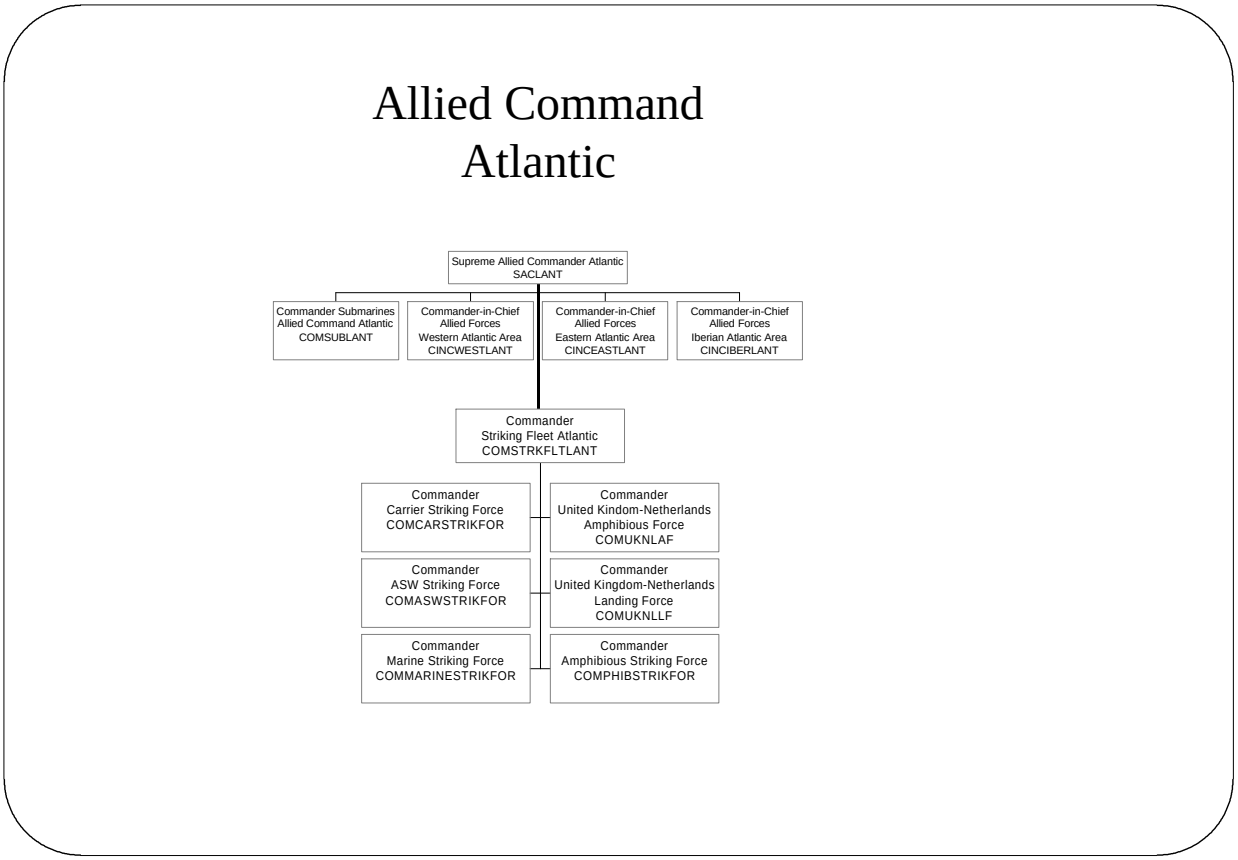


Figure 2-4. Allied Command Atlantic

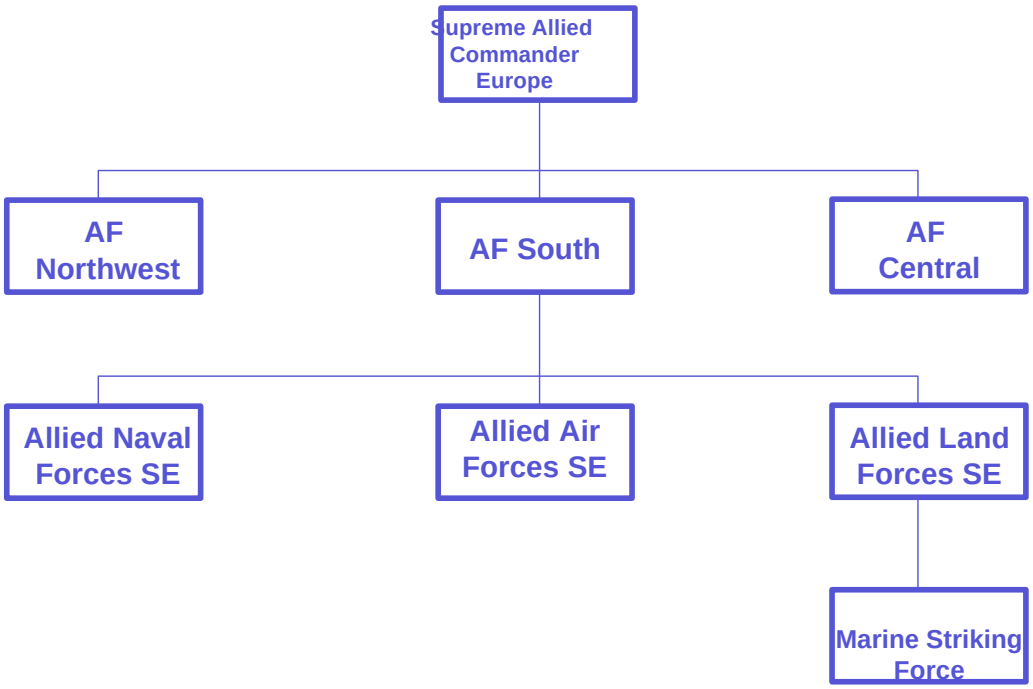


Figure 2-5. Allied Command Europe

Section V. Multinational Command Relationships

2501. Multinational Relationships.

1. Concept. The strategic goal of collective security and the resulting alliances which the U.S. military has entered requires that its armed forces be prepared for multinational operations. Multinational operations consist of several nations employing their forces together to successfully complete a mission. The success of the multinational operation depends largely on the commander achieving unity of effort within the structure of an alliance or a coalition. Since no universal doctrine exists for combined warfare, unity of effort can be extremely difficult to accomplish. Individual protocols and contingency plans are developed within each alliance. Coalition operations are even less structured, based on temporary agreements or arrangements. Each multinational operation is unique, and key considerations involved in planning and conducting such operations vary with the international situation and perspectives, motives, and values of the organization's members.

The two types of operations—combined and multinational—are normally determined by the objective and whether the objective or relationship is to be long-term or short-term. Combined is defined as between two or more forces or agencies of two or more allies. Multinational al describes military actions conducted by forces of two or more nations, typically organized within the structure of a coalition alliance. An alliance is a result of formal agreements between two or more nations for broad, long-term objectives. Alliance members typically have similar national political and economic systems. NATO is one example. A coalition is an ad hoc arrangement between two or more nations for common action. Coalitions often bring together nations of diverse cultures for a limited period of time. The coalition that defeated Iraq in the 1991 Gulf War is an example. As long as the coalition members perceive their membership and participation as advancing their individual national interests, the coalition can remain intact.

For coalition forces where no body of doctrine exists, it is vital that modifications and restrictions to extent of authority must be clearly spelled out and mutually agreed to by all nations involved. MAGTF commanders should exert variations and modifications to Joint doctrine for multinational command relationships. It is important that command relationships be thought out in advance, made clear to all involved. CINC OPLANS and CONPLANS will often provide a concept for a coalition's command relationship in that theater. Bilateral and multinational exercises and training may also provide a foundation for operational command relationships.

2. Relationships. U.S. forces will often be the predominant and most capable force within an alliance or coalition. The MAGTF commander may often be expected to play a central leadership role, albeit one founded on mutual respect. Regardless of command relationships, several considerations are germane during the planning and conduct of multinational operations.

National Goals

No two nations share exactly the same reasons for entering an alliance or a coalition. To some degree, participation within an alliance or a coalition requires the subordination of national

autonomy by member nations. The glue that binds the combined force is agreement, however tenuous, on common goals and objectives. The MAGTF commander must strive to understand the different national goals and how these goals can affect conflict termination and the desired end state. Maintaining cohesion and unity of effort requires understanding and adjusting to the perceptions and needs of member nations.

Unity of Effort

Motivations of member nations may differ, but combined objectives should be attainable, clearly defined by the commander or leadership structure of the combined force, and supported by each member nation. Capabilities of each member nation's forces will often differ significantly and must be considered by the JFC when determining the types of missions to be assigned. When combined forces are under the direction of the MAGTF, the commander should strive to involve all national forces commensurate with their capabilities and to balance this with considerations for national pride, honor, and prestige. The commander should establish a personal, direct relationship with the leaders of other national forces as respect and trust are essential to building and maintaining a strong team.

The commander should include staff members from subordinate combined forces in the decisionmaking process, consistent with the terms established at the founding of the alliance or coalition. Member recommendations should be sought continuously by the commander, but especially during the development of courses of action and ROE, assignment of missions to national forces, and establishment of priorities of effort.

Doctrine, Training, and Equipment

Doctrine, operational competence as a result of training and experience, and types and quality of equipment can vary substantially among the military forces of member nations. At times, national capabilities and national expectations or desires concerning roles to be performed may not be in balance. The commander should seek to optimize the contribution of member forces through training assistance, joint exercises, and sharing of resources.

Cultural Differences

Each member has a unique cultural identity. Even minor differences can have a significant impact on cohesion of the force. The commander should attempt to accommodate—

- Religious holidays and other unique cultural traditions.
- Language differences.
- Dietary restrictions.

National Communications

Some member forces will have direct and near immediate communications capability from the operational area to their respective political leadership. This can facilitate coordination but can also be a source of frustration as leadership external to the operational area may issue guidance directly to their deployed forces .

Operations
Marine forces will function in a combined operation in two basic relationships—MAGTF as part of a joint, combined, or multinational task force, and a MAGTF attaching non-Marine elements.

(c) Examples.

1. MARFOR as Part of a Joint, Combined, or Multinational Task Force

The MAGTF, maintaining its organizational integrity, may form part of a larger joint, combined or multinational task force. In this case, the MAGTF headquarters will effect most of the coordination and liaison with the non-Marine forces. Again, coordination with non-Marine units will be dictated primarily by the presence of those units adjacent to Marine units.

2. MARFOR Attaching Non-US Elements

The MAGTF may be assigned combat units from a foreign military and should, in turn, logically assign those units to the appropriate element when the elements have the capability to absorb them. This relationship most directly involves ground commanders coordinating with non-Marine forces. The commander must consider the requirements and interoperability of communications, fire support, and logistics.

Section VI. Interagency Coordination (including NGO and PVO)

1. Concept.

The Interagency Process and Participants
Interagency coordination forges the vital link between the military instrument of power and the economic, political and/or diplomatic, and informational entities of the US Government (USG) as well as nongovernmental agencies. The intrinsic nature of interagency coordination demands that commanders and joint planners consider all elements of national power and recognize which agencies are best qualified to employ these elements toward the objective.

Increased involvement of military forces in civil activity at home and abroad is matched, in part, by an increase in situations — primarily overseas — in which civil agencies face emerging post-Cold War factors and military threats not previously confronted. Many organizations are drawn closer to military forces because their missions may fail without military support or protection.

To be successful, the interagency process should bring together the interests of multiple agencies, departments, and organizations. This is even more complex than the multidimensional nature of military

combat operations viewed in isolation. When the other instruments of national power — economic, political and/or diplomatic, and informational — are applied, the dimensions of the effort and the number and types of interactions expand significantly. There are two types of interagency operations: domestic and foreign.

Interagency Coordination for Domestic Operations

Military operations inside the US and its territories, though limited in many respects, may include military support to civil authorities, which is Department of Defense (DOD) support to civil authorities for domestic emergencies that result from natural or manmade causes, or military support to civilian law enforcement agencies (MSCLEA). MSCLEA also includes, but is not limited to military assistance to civil disturbances; Key Asset Protection Program; and interagency assistance, to include training support to law enforcement agencies, support to counterdrug operations, support for combating terrorism, and improvised device response.

In all of these efforts, the military brings unique and very useful capabilities to the interagency forum that have value in domestic support. However, the Constitution of the United States, laws, regulations, policies, and other legal issues all bear on the employment of the military in domestic operations. Considering the increased emphasis on domestic roles for the Department of Defense, a balance must be defined during the planning phase between the military capabilities and resources that can be applied to a situation and the constraints of law.

Interagency Coordination for Foreign Operations

Operations in foreign areas arise as a result of the United States' external relationships and how they bear on the national interest. For the Department of Defense, in the politico-military domain, this involves bilateral and multilateral military relationships, treaties involving DOD interests, technology transfer, armaments cooperation and control, and humanitarian assistance and peace operations.

Within a theater, the geographic combatant commander is the focal point for planning and implementation of regional military strategies that require interagency coordination. Coordination between the Department of Defense and other USG agencies may occur through a country team or within a combatant command. In some operations, a Special Representative of the President or Special Envoy of the United Nations Secretary-General may be involved. The US interagency structure within foreign countries involves the Ambassador, country team system (which includes the Defense Attaché Office and the Security Assistance Organization), the American Embassy public affairs officer, United States Information Service, and geographic combatant commands.

The security challenges facing the nation today are increasingly complex, requiring the skills and resources of many organizations. These include USG agencies, partner

nations, nongovernmental organizations (NGOs), private voluntary organizations (PVOs), regional and international organizations, and the agencies of the host country. Efforts must be coordinated despite philosophical and operational differences separating agencies. Unity of effort is made more difficult by the agencies' different and sometimes conflicting policies, procedures, and decision-making techniques.

Nongovernmental Organizations and Private Voluntary Organizations

Where long-term problems precede a deepening crisis, NGOs and PVOs are frequently on the scene before US forces and are willing to operate in high-risk areas. They will most likely remain long after military forces have departed. NGOs and PVOs are diverse, flexible, independent, and grassroots-focused and are primary relief providers. NGOs and PVOs are involved in such diverse activities as education, technical projects, relief activities, refugee assistance, public policy, and development programs. The sheer number of lives they affect and resources they provide enables the NGO and PVO community to wield a great deal of power within the interagency community.

Because of their capability to respond quickly and effectively to crisis, NGOs and PVOs can lessen the civil-military resources that a commander would otherwise have to devote to an operation. In the final analysis, activities and capabilities of NGOs and PVOs must be factored into the commander's assessment of conditions and resources and integrated into the selected course of action. Their extensive involvement, local contacts, and experience in various nations make these organizations valuable sources of information about local and regional governments as well as civilian attitudes toward the operation.

Regional and International Organizations

Regional and international organizations have well-defined structures, roles, and responsibilities and are usually equipped with the resources and expertise to participate in complex interagency operations. Regional examples include the North Atlantic Treaty Organization, the Organization for African Unity, the Organization of American States, the Western European Union, and the Organization on Security and Cooperation in Europe. International examples include the United Nations and the International Red Cross and Red Crescent Movement.

Organizing for Interagency Operations at the Operational Level

Command Relationships. NGOs and PVOs do not operate within either the military or the governmental hierarchy. Therefore, the relationship between Armed Forces and NGOs and PVOs is neither supported nor supporting, but rather an associate or partnership relationship. Steps for military commanders that support effective interagency coordination and identify mutual objectives include: (1) identify all agencies and organizations that are or should be involved in the

operation; (2) establish an interagency hierarchy and define the objectives of the response effort; (3) define courses of action for both theater military operations and agency activities; (4) solicit from each agency, department, or organization a clear understanding of the role that each plays; (5) identify potential obstacles to the collective effort arising from conflicting departmental or agency priorities; (6) identify the resources of each participant in order to reduce duplication and increase coherence in the collective effort; (7) define the desired end state and exit criteria; (8) maximize the mission's assets to support the longer term goals of the enterprise; and (9) establish interagency assessment teams.

For interagency crisis response for operations within the United States and its territories (other than for acts of terrorism), the Secretary of the Army is the Department of Defense Executive Agent for execution and management of military support to civil authorities. The Secretary of Defense retains the authority to approve the deployment of combatant command resources and to authorize DOD involvement in operations that may include the use of lethal force (e.g., civil disturbances). The Secretary of the Army executes and manages domestic operations through the Director of Military Support and the supported geographic combatant commander. When the Department of Defense responds to acts of terrorism, the Secretary of Defense personally oversees the operation. Early in crisis action planning for operations outside the continental United States and its territories, the geographic combatant commander communicates with the appropriate Ambassador (s) as part of crisis assessment. The Ambassador and country team are often aware of factors and considerations that the geographic combatant commander might apply to develop courses of action, and they are key to bringing together US national resources within the host country.

Joint Task Force Interagency Operations

The unique aspects of the interagency process require the joint task force (JTF) headquarters to be especially flexible, responsive, and cognizant of the capabilities of not only the JTF's components, but other agencies as well. When designating a JTF, the combatant commander will select a commander of the joint task force, assign a joint operations area, specify a mission, provide planning guidance, and either allocate forces to the JTF from the Service and functional component forces assigned to the combatant command or request forces from supporting combatant commands. In contrast to the established command structure of a combatant command or joint task force, NGOs and PVOs in the operational area may not have a defined structure for controlling activities. Upon identifying organizational or operational mismatches between organizations, the staff of the combatant command or JTF should designate points in the NGO and PVO organizations at which liaison and coordinating mechanisms are appropriate. These may include the Humanitarian Assistance Coordination Center, the Logistics Operations Center, and a liaison section.

A valuable tool in the mission analysis process is the deployment of a JTF assessment team to the projected joint operations area. The assessment team may help clarify the mission by actually deciding what needs to be accomplished, what type of force is required, the proper sequence for deployment of the force, availability of state and local or in-country assets, and what ongoing operations are being conducted by organizations other than military forces. The JTF commander should consider the establishment of an executive steering group, civil-military operations center, and liaison teams. Other

JTF interagency considerations are intelligence support and control, logistic support, legal support, media affairs, and space support.

2602. MAGTF as Part of Interagency Operations. The Marine Corps, in support of the National Security Strategy, will often be tasked to conduct operations other than war.[4] An underlying characteristic of all such operations is the subordination of military considerations to political considerations. Although all military operations are conducted in support of national political objectives, in operations other than war political considerations directly affect decisionmaking at every level, strategic to tactical, on a daily basis. Military forces are tasked to support civilian agencies, driving a requirement for extensive interagency coordination to achieve national objectives.

This requirement for coordinated military-civilian effort is a distinguishing characteristic of all military operations other than war whether conducted in support of domestic civil authorities or on foreign soil. In the latter case, in addition to working closely with the U.S. diplomatic mission and the country team, Marines must often coordinate efforts with literally dozens of governmental and nongovernmental agencies of the U.S., the host country, other nations, and regional and international organizations. Wide philosophical and operational differences make this coordination a difficult task that is further complicated by the voluntary nature of the relationships between many of the parties. It is important to note that the relationship between armed forces and NGO/PVO is neither supported nor supporting but rather an associate or partnership relationship.

The establishment of a relationship between military and civil authorities that is based on mutual trust and confidence may be the difference between success and failure of the operation. In the words of General A.C. Zinni, USMC, "Instead of thinking about warfighting agencies like command and control you create a political committee, a civil-military operations center to interface with volunteer organizations. These become the heart of your operations as opposed to a combat or fire support operations center." In military operations other than war, MAGTF commanders must be fully prepared to coordinate with and subordinate military actions to the other components of national power: diplomatic, economic, and psychological.

a. Civil Military Operations Center (CMOC). The CJTF may establish a civil military operations center to coordinate and facilitate US and multinational forces humanitarian operations with those of international and local relief agencies, host-nation agencies, and host-nation authorities. The CMOC provides the primary interface between US military forces and relief agencies and other organizations involved in the operations.

The CMOC may serve as the joint operations center for the JTF. If access to the JOC is restricted due to security considerations, the CMOC may serve as an unclassified extension of the J-3 section. The CMOC director may work for the civil-military officer on the J-3 staff, the JTF Chief of Staff, the J-3, for possibly for the commander, joint civil-military operations task force. The Marine Corps component

[4] Such operations are any operations conducted by MARFOR short of large-scale, sustained combat. They have been known by a number of different names—low-intensity conflict, military operations other than war, and, in the current National Military Strategy, smaller-scale contingencies. See MCWP 3-33 for additional information.

commander functions at the operational level of war. The Marine Corps component commander is responsible for accomplishing assigned operational missions but primarily provides forces and administrative and logistic support to Marine Corps forces.

Chapter 3

Command and Control Organization

Section I

Task Organization

Note: In this chapter, the term Marine Expeditionary Brigade (MEB) is used in place of Marine Expeditionary Force (Forward) [MEF (FWD)]

3101. Task Organization. Task organizing is the process of allocating available forces to subordinate commanders for the accomplishment of tasks. The result of that process is the task organization that becomes Annex A to the operation plan (OPLAN) or operation order (OPORD). The task organization is developed through the Marine Corps Planning Process (MCPP) described in MCWP 5-1, *Marine Corps Planning Process*, thus ensuring that it is focused on the threat and based on the Marine Corps warfighting philosophy of maneuver warfare. By using the planning process, the commander and his staff wargame and analyze courses of action, taking into account key operational factors—mission, enemy, terrain and weather, troops and support available-time available (METT-T); the commander's intent and concept of operations; the maintenance of operational flexibility and tempo; and weighting the main effort—to determine the best allocation of combat power to accomplish the mission. This allocation, along with the troop list of available units, becomes the basis for the task organization.[1]

a. MAGTF Organization. Perhaps the single most important consideration in task organization is the requirement to structure the organization to facilitate command and control. The Marine Corps has permanently structured operating forces assigned to MARFORs. The peacetime structure is a baseline force around which mission specific, task organized forces are formed. The operating forces are organized as MAGTFs. The MAGTF is the Marine Corps principal organization for all missions across the range of military operations, composed of forces task organized under a single commander capable of responding rapidly to a contingency anywhere in the world. The types of forces in the MAGTF are functionally grouped into four core elements: a command element, an aviation combat element, a ground combat element, and a combat service support element (see figure 3-1).

The flexibility of the organizational structure allows for one or more subordinate MAGTFs, other Service and/or foreign military force(s), to be assigned or attached. The four core elements are categories of forces, not formal commands. The basic structure of the Marine air-ground task force

[1] The troop list is a listing maintained by the G-3/S-3 of all units that have been allocated to the command for the operation.

never varies, though the number, size, and type of Marine Corps units comprising each of its four elements will always be mission dependent.

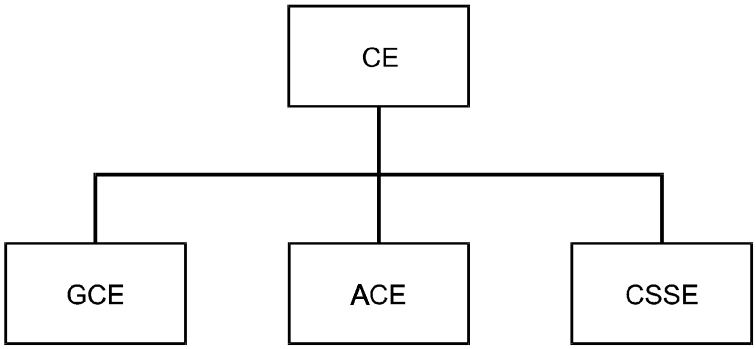
Marine Corps Reference Publication (MCRP) 5-12D, *Organization of Marine Corps Forces*, provides general information on the mission, concept of employment, organization, and equipment of Marine forces.

b. Development of Task Organization. MAGTF commanders use the task organization to assign specific units to subordinate commanders. The commander must ensure that subordinate headquarters have sufficient resources to accomplish assigned tasks. Normally, when task organizing the GCE, the commander will allocate maneuver units two levels down to subordinate commanders one level down (for example, a division commander will allocate infantry battalions to the infantry regiment). The commander will allocate specialized combat support and CSS units as needed regardless of size; companies, platoons, or even smaller detachments may be allocated to augment divisions.

In developing the task organization, the commander and his staff may need to create temporary, nonstandard organizations or task forces to conduct a particular operation. However, this organizational flexibility must be tempered with common sense. Task organization must be based on more than the results of wargames and the analyses of courses of action. Task organization deals with real units and must take into account the capabilities, strengths, and weaknesses of those units and the abilities and personalities of their commanders. Retaining unit integrity and existing relationships between units whenever possible is particularly important. The command should not be radically restructured without good reason. Likewise, to ensure the cooperation and understanding of all participants, the task organization should be based on Marine Corps doctrine and training.

Another factor that should be taken into consideration is span of control. A commander should not have more subordinates than he can reasonably be expected to direct under battlespace conditions. On the other hand, excessive layers in an organization tend to dissipate operational tempo. The organization should be flattened to the extent possible while maintaining a reasonable span of control. The organizational structure should be simple and straightforward because complex, convoluted task organizations and command relationships lead to confusion. Finally, if the task organization involves significant changes to the existing organization and current standing operating procedures (SOPs), adequate time must be available to realign and adjust to those changes.

The task organization defines command relationships for subordinate units. These command relationships may be permanent for organic units, in which case they are based on an established table of organization (T/O). Command relationships may also be temporary, based on the attachment (short term) or assignment (relatively long term) of forces for the accomplishment of a particular mission or the conduct of an exercise. Normally, units or personnel that are assigned or attached will be under the OPCON of the gaining unit commander. They may or may not be under the ADCON of the gaining unit commander. The assignment or attachment orders must specify whether ADCON is retained by the parent unit or passed to the gaining unit. ADCON would normally be passed to the gaining unit when long periods are involved and when the parent



organization is geographically distant. However, the parent unit might retain responsibility in matters relating to transfer and

Figure 3-1. Marine Air-Ground Task Force Organization

promotion. In other situations, the parent unit may retain responsibility for specialized logistic support that is beyond the capability of the gaining unit to provide.

The task organization also defines the support relationships between supporting and supported units by using the four internal support relationships discussed above—direct support, general support, general support-reinforcing, and reinforcing. If nonstandard support relationships are used in the task organization, responsibilities for each area must be clearly addressed in the authorizing directive.

3102. MAGTF Organization. The CE is the MAGTF headquarters. It is task organized to provide the command and control capabilities required for effective planning, direction, and execution of all MAGTF operations. It includes intelligence and communications units that provide general support for the MAGTF.

The GCE is task organized to conduct ground operations in support of the MAGTF mission. During amphibious operations, it projects ground combat power ashore by using organic assault amphibious vehicles (AAVs), transport helicopters from the ACE, and Navy landing craft. Its composition will vary with the situation and mission, although it is normally built around an infantry unit reinforced with artillery, reconnaissance, armor, engineer, and other forces as needed. The GCE may range in size from a reinforced rifle platoon to one or more reinforced Marine divisions. The GCE may include attached units from the Army as well as allied or multinational forces.

The ACE is task organized to support the MAGTF mission by performing all or a portion of the six functions of Marine aviation: antiair warfare, assault support, offensive air support, air reconnaissance, electronic warfare, and control of aircraft and missiles. The ACE is normally built around an aircraft organization (squadron, group, or wing) augmented with appropriate air command and control, combat, combat support, and CSS units. The ACE can operate effectively from ships, expeditionary airfields, or austere forward operating sites and can readily and routinely transit between sea bases and

expeditionary airfields without loss of capability. The ACE can range in size and composition from an aviation detachment with specific capabilities (e.g., assault support and control of aircraft and missiles) to one or more MAWs that are capable of performing all functions of Marine aviation.

The CSSE is task organized to provide logistic support for the MAGTF. The CSSE provides a full range of service support functions either from sea bases aboard naval shipping or from expeditionary logistic support bases ashore. The CSSE may be tasked to provide logistical support external to the MAGTF in support of the MAGTF mission—for example, when the MAGTF is conducting disaster relief operations. The CSSE is formed around a CSS headquarters and may vary in size and composition from a small service support detachment to one or more FSSGs.

There are two types of standing MAGTF—the MEF and the smaller MEU (special operations capable) (MEU(SOC)). MEU(SOC)s are formed from the assets of the MEF and are continuously forward deployed on amphibious shipping. Normally the MEF would deploy only in a crisis situation and would then deploy by echelon with the lead echelon designated as the Marine Expeditionary Brigade (MEB). The MEB might deploy as an air contingency force, as a maritime prepositioning force, or as an amphibious force. The third type of MAGTF is the SPMAGTF, which is tailored for a specific mission that is normally limited in both scope and duration. The following paragraphs discuss the command and control for each of the three types of MAGTF.

a. Marine Expeditionary Force. The MEF is the largest MAGTF and is capable of missions across the entire range of military operations, including amphibious assault and sustained operations ashore. Each of the three standing MEFs—I MEF, II MEF, and III MEF—consists of a permanent CE and one Marine division, Marine Air Wing (MAW), and force service support group (FSSG). However, the size and composition of a deployed MEF can vary greatly, depending on the requirements of the mission. A MEF can deploy with not only its own units, but also units from the other standing MEFs, the Marine Corps Reserve, or other Services. The MEF CE is capable of commanding and controlling a MEF GCE consisting of multiple divisions that could include Army, allied, and/or coalition divisions.

A MEF normally deploys by echelon. The lead echelon of the MEF, which is tailored to meet a specific mission, is designated the MEB and may be commanded by the MEF commander personally or by a designated commander, normally the deputy commanding general. The MEB prepares for the subsequent arrival of the rest of the MEF and/or other joint or combined forces. However, the deployment of the MEB does not necessarily mean that all the forces of the MEF will follow. Depending on the nature of the operation, the entire MEF may not need to be deployed. MEFs may conduct sustained operations ashore on completion of an amphibious operation or by deploying from the sea, land, or air and linking up with maritime prepositioning ships carrying equipment and supplies. A MEF typically deploys with 60 days of sustainment.

(1) Marine Expeditionary Force Command Element. The MEF CE provides the command and control support necessary for effective planning and execution of MEF operations. With appropriate augmentation, the MEF CE can serve as the nucleus for a JTF headquarters or as a

joint force land, air, or maritime component headquarters. The MEF CE also maintains the capability to deploy a forward CE to exercise OPCON of assigned and/or attached forces that comprise a MEB. The CE is a permanent organization that consists of a command section, general and special staff sections, and a MEF headquarters group.

(a) Marine Expeditionary Force Headquarters Group. The MEF headquarters group comprises force-level units that provide specialized combat support to the MEF. The MEF headquarters group includes the communications battalion, the radio battalion, the intelligence company, the force reconnaissance company, the civil affairs group (CAG), and liaison units. These units operate in general support of the MEF and also deploy detachments in direct support of the MEB, MEU(SOC)s, SPMAGTFs, or subordinate MAGTF units. The MEF headquarters group commander exercises ADCON over subordinate units. During operations the MEF headquarters group or its detachments are OPCON to the supported MAGTF commander. The MAGTF commander will exercise OPCON of MEF headquarters group units/detachments through the cognizant general/executive staff section: intelligence and reconnaissance elements through the G-2/S-2, communications and information systems elements through the G-6/S-6, and Marine liaison elements through the G-3/S-3. Support relationships may vary widely and will be established by the supported commander in accordance with the situation.

(b) Command and Control Support. The command and control support assets of the MEF CE include the communications battalion and the communications platoon of the radio battalion, which provides special security communications support. The communications battalion provides communications support to the MEF CE and the MARFOR component headquarters. Elements of the battalion are task organized to provide specified general or direct support to the MAGTF CE and the MARFOR component commander. Elements of the communications battalion also are employed as task-organized detachments to support either a MEB CE or a MEU(SOC) CE. The communications battalion/communications battalion detachment is under the OPCON of the MAGTF commander, who exercises this control through the G-6/S-6.

The mission of the communications battalion requires that the battalion have the capability to support a component headquarters deployed simultaneously with a MEF CE and a MEB CE, or two MEB CEs. A further mission is to provide support to three MEU CEs. Specific tasks include the following:

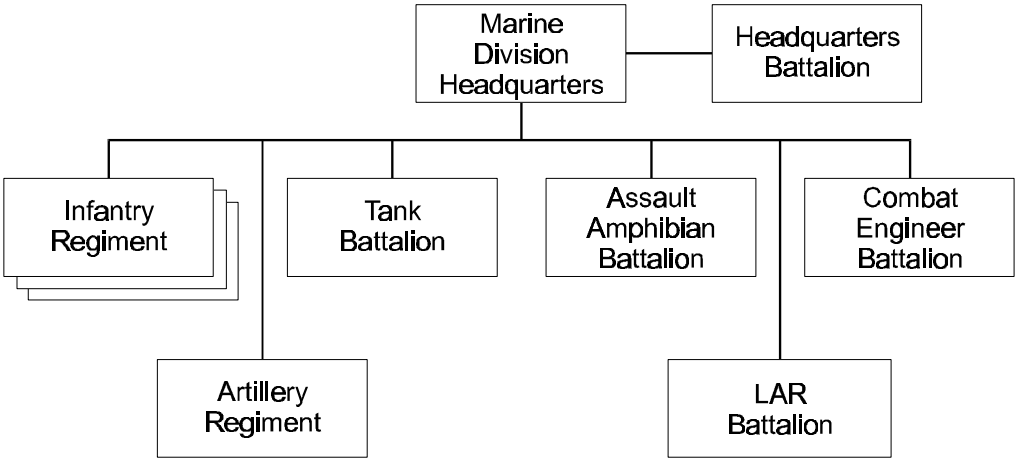
- Provide internal communications for the supported CE: MEU, MEB, MEF, or component headquarters.

- Provide communications connectivity between the supported CE and senior, adjacent, and subordinate headquarters.

- Provide the supported CE with a Naval Telecommunications System entry and/or, as appropriate, entry into the Defense Communications System.
- Provide the JTF enabler command and control support capability to three MEU CEs.

The communications battalion consists of a headquarters company, a service company, three direct support communications companies, and a general support company.[2] As discussed above, elements of the communications battalion may be employed separately as task-organized detachments to support organizations smaller than a MEF CE, or the entire battalion may be employed to support larger MAGTF CEs. The headquarters company includes the structure necessary to provide detachments to support three MEU CEs simultaneously. On notification and before deployment of a MEF CE, the battalion will task organize to support the deployment. On notification and before deployment of a MEB CE or a component headquarters, a direct support communications company will be task organized to support the deployment.

(2) Marine Expeditionary Force Ground Combat Element. The MEF GCE is normally built around one or more Marine divisions. The Marine division also provides task-organized forces for smaller MAGTFs. (Figure 3-2 depicts the notional organization of a Marine division.) The GCE will be task organized in tactical groupings or task forces to best execute the assigned mission. The maneuver units of the division are usually the foundation for such tactical groupings (e.g., regimental landing teams, battalion landing teams (BLTs), or a mechanized task force). In forming tactical groupings, the maneuver units are reinforced with appropriate detachments from the division combat or combat support units—artillery regiment, tank battalion, assault amphibian battalion, combat engineer battalion, and light armored reconnaissance (LAR) battalion.



[2] 7th Communications Battalion, III MEF, has only one direct support company.

Figure 3-2. Marine Division Organization

(a) Division Headquarters Battalion. The division headquarters battalion, augmented as necessary, provides support for the command and control of the GCE. The battalion contains a headquarters and service (H&S) company, a division headquarters, a reconnaissance company, a special security communications team, a communications company, a military police (MP) company, the division band, and a truck company.

(b) Command and Control Support. The primary command and control support assets of the headquarters battalion include the communications company and the special security communications team. The mission of the communications company is to install, operate, and maintain the communications system for a Marine division headquarters. The division communications company is organized into a company headquarters and six platoons that are organized by function to support the following tasks:

- Install, operate, and maintain communications center facilities for the division headquarters.
- Maintain radio stations on communications and information systems, administrative, logistic, and other radio nets as required.
- Install, operate, and maintain switchboard and telephone services for the division headquarters.
- Install, operate, and maintain multichannel radio terminals for support of internal division communications links as required.
- Provide, in coordination with the artillery regiment, communications support for the division naval gunfire officer, division air officer, and division fire support coordination center (FSCC).
- Install, operate, and maintain the Position Location Reporting System (PLRS) master stations and reference community in support of MAGTF operations.

The division communications company furnishes communications for the division main, the division rear, and the alternate command post. The division communications company provides multichannel communications to the three infantry regiments, the artillery regiment (which may act as the alternate division command post), and the direct air support center (DASC). Multichannel radio is the primary means of communication with major subordinate units. Wire communications are not normally installed to major subordinate units, but may be installed to separate battalions if they are located within approximately one mile of the

division headquarters. Otherwise, wire service is restricted to internal headquarters installations for local telephone, teletype, and multichannel lines. Multichannel communications service will be disrupted during displacement of the division headquarters.

(3) Marine Expeditionary Force Aviation Combat Element. The MEF ACE is built around a MAW. The MAW also provides task-organized forces for smaller MAGTFs. (Figure 3-3 depicts the organization of the MAW.) The MAW may be reinforced with assets from other MAWs to meet mission requirements. The MAW is organized into a wing headquarters and Marine aircraft, air control, and wing support groups. The wing headquarters and subordinate groups are task organized on the basis of assigned missions. Each group consists of specialized squadrons and/or battalions that perform one or more of the six functions of Marine aviation. The Marine air control group (MACG) contains the bulk of the command and control support assets of the MAW. The MAW is the smallest aviation unit with the inherent capability of performing all six functions of Marine aviation. However, through task organization, a wing can provide deployable detachments that are capable of accomplishing any or all of the Marine aviation functions.

(a) Marine Wing Headquarters Squadron. The Marine wing headquarters squadron (MWHS) provides command, administrative, and logistic support for a MAW headquarters and the Marine tactical air command squadron (MTACS) and Marine wing communications squadron (MWCS) of the MACG.

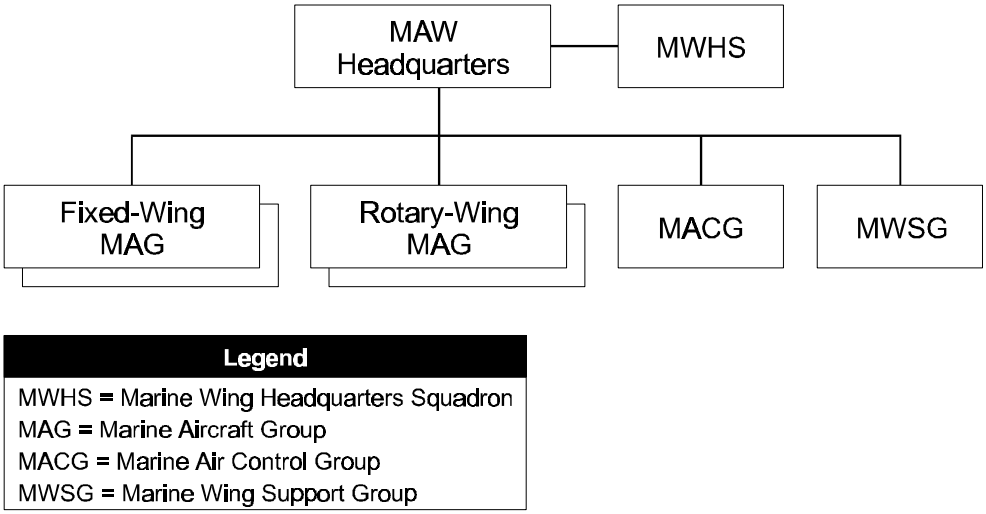


Figure 3-3. Marine Aircraft Wing Organization

(b) Command and Control Support. The MAW has units assigned, as their primary mission, the responsibility to establish and operate command and control centers. These units are part of the MACG. The MACG establishes, operates, and maintains the Marine air command and control system (MACCS), which supports the command and control of the ACE as well as the control of aircraft and missiles. The subordinate units of the MACG

provide the major command and control agencies of the MACCS. The MACG normally consists of a headquarters, an MTACS, a Marine air support squadron (MASS), two Marine air control squadrons (MACSs), a low-altitude air defense (LAAD) battalion, and an MWCS. The tactical air command center (TACC), which is furnished by the MTACS and manned with personnel augmentation from both the wing and MACG headquarters, is the principal air command agency for the ACE. The major air control agencies are the tactical air operations center (TAOC) and two Marine air traffic control detachments (MATCDs), which are furnished by the MACS, and a DASC, which is furnished by the MASS. The MAGTF's organic surface-to-air weapons are provided by the LAAD battalion. The operation of air command and control agencies is discussed in detail in paragraph 3003.

The mission of the MWCS is to provide expeditionary communications for the ACE of a MEF, including communications support for the phased deployment of task-organized elements of a MAW. The squadron consists of a headquarters element and one or two detachments.

The squadron provides communications support for the ACE headquarters and TACC. Each detachment may be independently deployed to provide external communications for up to two airfields and four forward bases. Specific tasks assigned to the MWCS include the following:

- Assist in the systems planning and engineering of ACE communications and install, operate, and maintain expeditionary communications to support the command and control of the MEF ACE.

- Provide operational systems control centers (OSCCs), as required, to coordinate communications functions internally and externally to the ACE.

- Provide maintenance support for ground-common communications equipment in the MAW.

- Provide the digital backbone communications support for the ACE headquarters, forward operating bases (FOBs), and MACCS agencies for up to two airfields per detachment.

- Provide tactical automated switching and telephone services for the ACE headquarters and the TACC.

- Provide electronic message distribution for the ACE headquarters, primary MACCS agencies, and tenant units.

- Provide external single-channel radio and radio retransmission communications support for ACE operations as required.

- Provide deployed wide area network (WAN) and deployed local area network (LAN) server support for the ACE headquarters and primary MACCS agencies.

- Provide the support cryptographic site for all ground-common and MACCS-assigned communications security (COMSEC) equipment within the ACE.

(4) Marine Expeditionary Force Combat Service Support Element. The MEF CSSE is normally built around an FSSG. The FSSG also provides task-organized forces for smaller MAGTFs. (Figure 3-4 depicts the organization of the FSSG.) The FSSG includes a CE and an H&S battalion to exercise command and control and seven battalions, organized by function, that provide CSS to the MEF. Similar functions are grouped at the battalion level to facilitate command and control, coordination of support, training, and equipment maintenance. This system permits the FSSG commander to maintain centralized control over scarce CSS assets and at the same time facilitates the decentralized execution of CSS tasks. Furthermore, all battalions of the FSSG are structured to allow the FSSG commander to quickly and easily tailor task-organized CSSEs to support independently deployed or geographically dispersed elements of the MEF or smaller MAGTFs, as required. The FSSG is designed to satisfy the CSS requirements of a MEF that consists of one division and one MAW. Consequently, the FSSG will normally require augmentation to support a larger MEF.

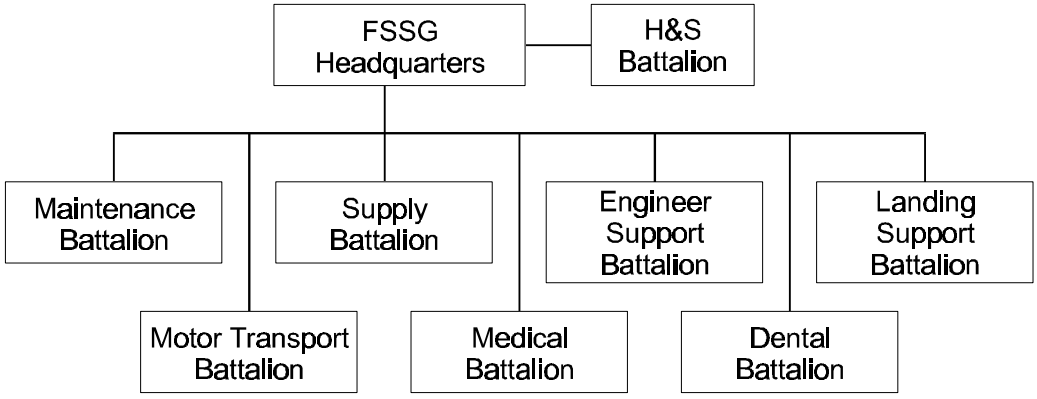


Figure 3-4. Force Service Support Group Organization[3]

(a) Headquarters and Service Battalion. The H&S battalion provides command, control, and command support for the FSSG and services support to the MEF. The H&S battalion includes a headquarters company, a service company, a communications company, and a military police company. The headquarters company provides command

[3] Active Duty Force Structure Review to merge LSB and MT Battalions was incomplete at the time of publication.

and control, administration, and command support functions for the H&S battalion. The service company provides general support services support for the MEF in the areas of disbursing, postal, and exchange services; logistic information systems; and legal services. The communications company provides communications support to the FSSG and subordinate elements without organic communications capabilities. The MP company provides security support, including area circulation control, area security, enemy prisoner of war control, and law-and-order operations to the FSSG and the MEF. Task organized detachments form H&S battalion are assigned to the CSSEs of smaller MAGTFs

(b) Command and Control Support. The primary command and control support assets of the H&S battalion are located in the communications company. The mission of the communications company is to provide communications support to the CEs of the FSSG, subordinate battalions, and other CSSEs. The company is structured to provide communications support to the FSSG headquarters in MEF operations and task-organized detachments to the CEs of CSSEs deployed with MAGTFs smaller than a MEF. Augmentation from the MEF communications battalion is required if a dedicated Naval Telecommunications System/Defense Communications System entry is required. Specific tasks include the following:

- Provide communications support to the FSSG headquarters/force CSS area and other CSSEs established to support MAGTF operations.

- Provide communications support for H&S, maintenance, supply, and dental battalions and augmentation to the organic capabilities of motor transport, engineer support, and medical battalions.

- Install, operate, and maintain communications control facilities.

- Install, operate, and maintain tactical automatic switching and wire communications for the FSSG headquarters/force CSS area and CSS areas, and, when required, provide small-scale automated switching within maintenance, supply, medical, and dental battalions; the explosive ordnance disposal (EOD) platoon and bulk fuel company; the engineer support battalion; and the FSSG.

b. Marine Expeditionary Brigade. A Marine expeditionary brigade (MEB) is a task organization built around a reinforced infantry regiment, a composite Marine aircraft group, and a brigade service support group. It is commanded by a brigadier general. The MEB can conduct a range of military operations. It can function alone, as part of a Joint Task Force, or as the lead echelon of the MEF. MEB combat operations may be supported from its sea base, facilities ashore, or a combination of both. All MEB command elements are organized and prepared to command amphibious operations and to deploy to an overseas area of operations by amphibious shipping or by strategic airlift in connection with equipment and supplies prepositioned aboard ship or ashore.

c. Marine Expeditionary Unit. The MEU(SOC) is the standard forward-deployed MAGTF. Marine Corps Forces, Atlantic (MARFORLANT), and Marine Corps Forces, Pacific (MARFORPAC), maintain forward-deployed MEU(SOC)s in the Mediterranean Sea, the western Pacific, and Southwest Asia. The MEU(SOC) is a self-contained operating force that is capable of missions of limited scope and duration. Although each MEU(SOC) is task organized, a typical MEU(SOC) includes a standing CE; a reinforced infantry battalion; a reinforced helicopter squadron with transport, utility, and attack helicopters and, as required, a detachment of vertical/short takeoff and landing (V/STOL) fixed-wing attack aircraft; and a task-organized CSSE.

MEUs routinely receive special training before deploying that results in their designation as special operations capable. These MEU(SOC)s are augmented with selected personnel and equipment to provide enhanced conventional and selected maritime special operations capabilities.[4] Embarked aboard a three- to four-ship Navy ARG with sustainment for 15 days, a forward-deployed MEU(SOC) provides a seabased quick-reaction force that is capable of a wide variety of missions. In many cases, the MEU(SOC) will be the first U.S. force at the scene of a crisis and can resolve the crisis or, if necessary, conduct enabling actions for larger follow-on forces.

(1) Marine Expeditionary Unit (Special Operations Capable) Command Element. The MEU(SOC) CE provides the command and control support necessary for effective planning and execution of MEU(SOC) operations. The CE is a permanent organization that is comprised of a commanding officer, an executive officer, and supporting staff and is augmented with detachments from the MEF including a communications battalion detachment. The communications battalion detachment provides communications support for all operations, including a mobile command and control team that is capable of providing initial communications connectivity and information systems support (enabling capability) to the commander of a JTF (or other follow-on forces). The enabling capability may be held in a CONUS standby status.

(2) Marine Expeditionary Unit (Special Operations Capable) Ground Combat Element. The MEU(SOC) GCE is a reinforced infantry battalion organized as a BLT with approximately 1,200 Marines. The GCE is assigned command and control support assets from the division. These assets include a communications detachment that provides communications support to augment the organic capability of the battalion communications platoon.

(3) Marine Expeditionary Unit (Special Operations Capable) Aviation Combat Element. The MEU(SOC) ACE consists of a reinforced helicopter squadron that includes AV-8B Harrier attack aircraft and two CONUS-based KC-130 aircraft. The ACE is task organized to provide assault support, close air support, airborne command and control, and low-level air defense. The ACE is augmented with command and control support assets from the MAW. These assets include a MASS detachment that provides a limited DASC capability for the MEU(SOC) and communications support to the ACE.

[4] Maritime special operations capabilities include reconnaissance and surveillance; specialized demolitions; tactical recovery of aircraft and personnel; seizure/recovery of offshore energy facilities; seizure/recovery of selected personnel or materiel; visit, board, search, and seizure of vessels; and in extremis hostage recovery.

(4) Marine Expeditionary Unit (Special Operations Capable) Combat Service Support Element. The MEU(SOC) CSSE is a MEU(SOC) service support group (MSSG). The MSSG consists of detachments from the FSSG tailored to provide a full range of CSS necessary for the MEU(SOC) to accomplish all assigned missions. Command and control support is provided by a detachment from the communications company of the H&S battalion. The detachment provides communications support to the MSSG.

d. Special Purpose Marine Air-Ground Task Force. An SPMAGTF is a MAGTF that is organized to conduct a specific mission, normally of limited scope and duration, for which a standing MAGTF is either inappropriate or unavailable. SPMAGTFs are organized, trained, and equipped to conduct a wide variety of missions ranging from raids to noncombat operations, including peacekeeping, noncombatant evacuation, disaster relief, humanitarian assistance, and foreign military training. An SPMAGTF may be any size, but normally it is the size of a MEU(SOC) (or smaller) with narrowly focused capabilities based on the assigned mission. It may be task organized on the basis of deliberate planning from the assets of a standing MEF, or it may be formed on a contingency basis from an already deployed MAGTF to perform an independent, rapid-response mission. Depending on the situation, the composition of an SPMAGTF may not include all of the four basic elements of a MAGTF.

Command and control support for an SPMAGTF will be tailored to meet the demands of the mission. A task organized communications detachment may be provided to the SPMAGTF from the communications battalion and, in some instances, a detachment from the MACG may be necessary to provide air command and control capabilities. In other instances, communications support may be provided by assets from the deployed MAGTF designated as the nucleus of the SPMAGTF.

Section II

CIS Organizations

3201. Communications and Information Systems Organizations. Marines dedicated to the employment of communications and information systems are organized by T/O into the units described in the following subparagraphs. The T/O units may deploy and be employed as a complete unit or they may provide task-organized detachments to support elements of a MAGTF. These units and detachments operate under the staff cognizance of the G-6/S-6 of the supported unit. Separate units and detachments will be found only at higher echelons. At regiments and below, the communications unit will be an integral part of the HQ, and the communications unit commander may also serve as the S-6. The Marines assigned to these units, in concert with personnel assigned to G-6/S-6 sections and functional area users, ensure that an effective communications and information systems network is planned, installed, operated, and maintained. Communications units and the detachments they deploy are the key element in providing communications and information systems capability for the MAGTF elements that they support. Missions, tasks, and concepts of organization and employment of these units

are identified in their T/Os and synopsized below. The communications units addressed in this section include:

Communication battalion

Marine wing communication squadron (MWCS)
Communications company, Marine division
Communications company, FSSG

Communications platoons, branches, and sections

Special security communications elements and teams.

a. Communication Battalion. (Comm Battalion/Comm Bn) The mission of the comm battalion is to provide communications support to a MARFOR component HQ; a MEF CE or a MEB CE; a component HQ deployed simultaneously with a MEF CE and a MEB CE; or two MEB CEs. A further mission is to provide support to three MEU CEs.

(1) Tasks

- Provide CE communications for the supported CE: MEU, MEB, MEF, and component HQ.

- Provide communications connectivity between the supported CE and senior, adjacent, and subordinate HQs.

- Provide the supported CE with a Naval Telecommunications Systems entry and/or, as appropriate, entry into the Defense Communications System.

(2) Concept of Organization. Command and control functions are exercised through the battalion commander and the executive staff. The comm battalion consists of the HQ company, a service company, three direct support comm companies, and a general support company. Elements of the comm battalion may be employed separately as task-organized detachments to support organizations smaller than a MEF CE, or the entire battalion may be employed to support larger MAGTF CEs. The HQ company includes the structure necessary to provide detachments to support two MEU CEs.

(3) Concept of Employment. The comm battalion will normally deploy as a task-organized unit or will deploy task-organized detachments in support of MAGTF CEs. Upon notification, and before deployment of a MEF CE, the battalion will task organize to support the deployment. Upon notification, and before deployment of a MEB CE or a component HQ, a direct support comm company will be task organized to support the deployment. The MAGTF CE G-6/S-6 exercises staff cognizance over MAGTF communications; to facilitate system

planning and engineering, the battalion conducts concurrent planning with the Component MAGTF G-6/S-6.

b. HQ Company, Communication Battalion. The mission of the HQ company is to provide organic command, administration, logistic, and other required support for a comm battalion as well as to support system planning and engineering for and operational control of MAGTF communications networks as required.

(1) Tasks

- Plan and engineer communications and information systems for the MAGTF CEs, as required.
- Install, operate, and maintain network control facilities and system control facilities for the component HQ and MAGTF CEs of MEB size and larger.
- Install, operate, and maintain field message centers, radio links, and tactical switchboard/telephone systems for two MEU CEs.

(2) Concept of Organization. The company is organized into functional groupings to provide for a battalion and company HQ and support of the primary mission and tasks.

(3) Concept of Employment. The company normally collocates with the battalion HQ and operates in support of the battalion. As required, the various sections can be assigned to task-organized comm battalion detachments in support of deployed MAGTFs.

c. Direct Support Company, Communication Battalion. The mission of the direct support company is to install, operate, and maintain the communications system for a MEF CE, MEB CE, or component HQ.

(1) Tasks

- Install, operate, and maintain communications center facilities for the supported CE/HQ.
- Maintain radio stations on communications and information systems, administrative, logistic, and other radio nets as required.
- Install, operate, and maintain switchboard and telephone services for the supported CE/HQ.

(2) Concept of Organization. The direct support comm company is organized into a company HQ and three platoons organized along functional lines, tailored to support the primary mission and tasks listed above.

(3) Concept of Employment. The direct support comm company operates under the direct control of the comm battalion. When operating in support of a MEF CE, the company deploys and collocates with the comm battalion. When in support of a MEB CE or component HQ, the company, with reinforcements, is capable of deploying as a separate unit.

d. General Support Communications Company, Communication Battalion. The mission of the general support comm company is to install, operate, and maintain the component HQ, MEF CE, and MEB CE message and voice switches and links to JTF HQ, major subordinate commands (MSCs), adjacent units, the Naval Telecommunications System, and the Defense Communications System as required.

(1) Tasks

- Install, operate, and maintain the MEF digital transmission backbone by using cable and MCR equipment.
- Install, operate, and maintain digital switches to provide secure and nonsecure voice, facsimile, message, and data service to the MEF CE CPs.
- Interface the component and MEF CE communications and information systems with national systems, the Naval Telecommunications System, commercial telecommunications systems, and senior (CINC/JTF), adjacent, and subordinate systems and networks as required.
- Install, operate, and maintain tactical WANs/LANs for MAGTF CEs of MEB size or larger.

(2) Concept of Organization. The company is organized into a company HQ, a switching platoon, a satellite comm platoon, and a terrestrial comm platoon.

(3) Concept of Employment. The general support comm company operates under the direct control of the comm battalion. When operating in support of the MEF CE, the company deploys and collocates with the comm battalion. When in support of a MEB CE or component HQ, detachments from the company will augment a task-organized direct support comm company to provide a switched communications hub for an area communications network. Simultaneously, ground mobile forces (GMF) satellite communications teams and terrestrial transmission teams, as required, deploy as attachments to MSCs to connect the MEF CE with subordinate commands.

e. Service Company, Communication Battalion. The mission of the service company is to provide transportation, maintenance, communications-electronics maintenance, materiel handling

equipment, materiel handling equipment maintenance, and electrical power distribution services for a comm battalion.

(1) Tasks

- Provide heavy transportation support to operating companies as required.

- Provide communications-electronics equipment maintenance support to operating companies as required.

Provide primary electrical power distribution and service for the battalion.

Provide materiel handling support to the battalion.
Execute combat trains in support of the battalion.

(2) Concept of Organization. The service company is organized into a company HQ and three platoons: a motor transport platoon to provide the operation and maintenance of heavy motor transportation equipment organic to the battalion; a communications- electronics maintenance platoon capable of performing third-echelon maintenance on digital switches, telephones, cables, computers, cryptographic equipment, and radio equipment, including high frequency (HF), very high frequency (VHF), ultra high frequency (UHF), super high frequency (SHF), and extremely high frequency (EHF) single and multichannel assets organic to the operating companies of the comm battalion; and an engineer platoon that installs, operates, and maintains power distribution, air conditioning, refrigeration systems, and materiel handling equipment organic to the comm battalion.

(3) Concept of Employment. When the comm battalion is deployed as a unit, the service company normally collocates with the battalion HQ and provides support. As required, personnel and equipment from the service company can be assigned as part of task-organized comm battalion detachments.

f. Marine Wing Communication Squadron (MWCS/Comm squadron). The mission of the comm squadron is to provide expeditionary communications for the ACE of a MEF, including communications support for the deployment of task-organized elements of a MAW.

(1) Tasks

- Assist in the system planning and engineering of ACE communications and install, operate, and maintain expeditionary communications to support the command and control of the MEF ACE.

- Provide operational systems control centers, as required, to coordinate communications functions internally and externally to the ACE.

- Provide maintenance support for ground-common communications equipment in the MAW.

- Provide the digital backbone communications support for the ACE HQ, forward operating bases, and Marine Air Command and Control System (MACCS) agencies for up to two airfields per detachment. The MACCS agencies include the tactical air command center (TACC), tactical air operations cneter (TAOC), direct air support center (DASC), early warning control sites (EW/C), LAAD teams, and Marine air traffic conrol detachments (MATCD).

- Provide tactical, automated switching and telephone services for the ACE HQ and tactical air command center .
- Provide electronic message distribution for the ACE HQ, primary MACCS agencies, and tenant units.
- Provide external, single-channel radio (SCR), multichannel radio (MCR), and radio retransmission communications support for ACE operations as required.

- Provide deployed WAN and deployed LAN server support for the ACE HQ and primary MACCS agencies.

- Provide the support cryptographic site for all ground-common and MACCS-assigned communications security equipment within the ACE.

(2) Concept of Organization. The squadron consists of an HQ element and one or two detachments.

(3) Concept of Employment. The squadron provides communications support for the ACE HQ and TACC. Each detachment may be independently deployed to provide external communications for up to two airfields and four forward bases.

g. Communications Company, HQ Battalion, Marine Division. The mission of the comm company is to install, operate, and maintain the communications system for a Marine division HQ.

(1) Tasks

- Install, operate, and maintain communications center facilities for the division HQ.

- Maintain radio stations on communications and information systems, administrative, logistic, and other radio nets as required.

- Install, operate, and maintain switchboard and telephone services for the division HQ.

- Install, operate, and maintain MCR terminals for support of internal division communications links as required.

- Provide, in coordination with the artillery regiment, communications support for the division naval gunfire officer, division air officer, and division fire support coordination center (FSCC).

- Install, operate and maintain Enhanced Position Location Reporting System (EPLRS) master stations and reference community in support of MAGTF operations.

(**2) Concept of Organization.** The division comm company is organized into a company HQ and six platoons organized by function to support the mission and tasks listed above.

(3) Concept of Employment. The division comm company will furnish communications for the division main, the division rear, and the alternate CP. The division comm company will provide multichannel communications to the three infantry regiments, the artillery regiment (which may act as the alternate division CP), and to the direct air support center (DASC). MCR will be the primary means of communication with major subordinate units. Wire communications will not normally be installed to major subordinate units, but may be installed to separate battalions if located within approximately one mile of the division HQ. Otherwise, wire service will be restricted to internal HQ installations for local telephone and multichannel lines. Multichannel communications service will be disrupted during displacement of the division HQ.

h. Communications Company, HQ and Service Battalion, FSSG. The mission of the comm company is to provide communications support to the HQs of the FSSG, subordinate battalions, and CSSEs.

(1) Tasks

- Provide communications support to the FSSG HQ/force CSS area and other CSSEs established to support MAGTF operations.
- Provide communications support for Headquaters and Service , Maintenance, Supply, and Dental battalions and augmentation to the organic capabilities of Motor Transport, Engineer Support, and Medical battalions.

- Install, operate, and maintain communications control facilities.

- Install, operate, and maintain tactical automatic switching and wire communications for the FSSG HQ/force CSS area, CSS areas, and, when required, provide small-scale automated switching within maintenance, supply, medical, and dental battalions; the explosive ordnance disposal platoon and bulk fuel company; the engineer support battalion; and the FSSG.

(2) Concept of Organization. The company is structured to provide communications support to the FSSG HQ in MEF operations and task-organized detachments to the HQs of CSSEs deployed with MAGTFs smaller than a MEF. Augmentation from the MEF comm battalion is required if a dedicated naval telecommunications system/defense communications system entry is required.

(3) Concept of Employment. The company provides the primary communications support for the FSSG HQ and other CSSE HQs.

e. Communications Platoons, Branches, and Sections. Communications platoons, branches, and sections provide communications support at the regimental/group, battalion/squadron, and, in some instances, company/battery levels of the MAGTF. These communications units are organized to support the command posts and the communications networks of their parent organization. The communications platoons of artillery units are further required to provide support for establishment of the communications links to the units receiving their artillery support. The communications platoon of the radio battalion provides special intelligence communications support for the MAGTF CE as described in the next paragraph. Communications platoons, branches, and sections are found in the following organizations:

(1) Marine Expeditionary Force Command Element

- H&S company, radio battalion
- Headquarters, force reconnaissance company

(2) Marine Division

- Headquarters company, infantry regiment
- H&S company, infantry battalion
- Headquarters battery, artillery regiment
- Headquarters platoon, artillery battery
- Headquarters battery, artillery battalion
- H&S company, tank battalion
- H&S company, assault amphibian battalion
- H&S company, combat engineer battalion

- H&S company, LAR battalion

(3) Force Service Support Group

- H&S company, engineer support battalion
- H&S company, landing support battalion
- H&S company, motor transport battalion
- H&S company, medical battalion

(4) Marine Aircraft Wing

- MASS, MACG
- H&S battery, LAAD battalion
- MACS, MACG
- Airfield operations division, Marine Wing Support Squadron (MWSS)

(5) Marine Expeditionary Unit

- Communications Platoon, CE
- Communications Platoon, BLT
- Communications Detachment, MACS, MACG
- Communications Detachment, MSSG

f. Special Security Communications Elements and Teams. The mission of the special security communications elements and teams is to provide special intelligence communications support to the MAGTF. Special intelligence communications support for the MAGTF CE and for the radio battalion is provided by the special security communications element of the radio battalion. Special intelligence communications support for the division and wing headquarters is provided by special security communications teams—small force units attached to each division and MAW. These teams operate under the staff cognizance of the assistant chief of staff (AC/S), G-2/special security officer. The special security element or team provides the personnel and equipment to install, operate, and maintain special intelligence communications terminals. The communications circuits are provided by the communications unit that supports the headquarters—the communications battalion for the MAGTF CE, the communications company for the division headquarters, and the communications squadron for the MAW headquarters. Close coordination is maintained with the

supporting systems control and technical control (TECHCON) to ensure adequate support and circuit priority. When afloat, the special security elements/teams provide personnel augmentation to man shipboard signals exploitation spaces communications facilities as necessary to support landing force requirements.

f. Amphibious Squadron Deployment Teams. In 1998, shipboard Marine communications detachments and Marine tactical command and control sections were reorganized into amphibious squadron (PHIBRON) deployment teams to provide support for landing force communications and information systems on board all amphibious ships. The mission of the detachment is to coordinate support of the MAGTF's command, control, communications, computers, and intelligence (C4I) requirements with all amphibious ships assigned to designated ARGs. When not in support of the MAGTF, the detachment is centrally located within the amphibious group headquarters. The communications detachments begin coordination as soon as the ships are identified and are attached to the ARG/PHIBRON at the D-20 month mark. The four-man detachments maintain liaison between the landing force and the C4I departments aboard each ship throughout the deployment.

Section III
Concept of Employment

3302. Concept of Employment. To exercise command and control in combat, all MAGTF units establish command posts. These command posts provide the headquarters facilities from which the commander and his staff operate. Units of battalion size or larger may divide the headquarters into echelons—main, rear, and tactical—as shown in figure 3-5. The command post then becomes the echelon at which the commander is physically located. The main echelon (main) is where the commander is normally located together with those elements of the staff required to plan and direct operations and control forces. If the geographic area is large, a unit may establish a rear echelon (rear) to serve principally as an administrative and logistical support base. In some situations, the commander may create a tactical echelon to be in proximity to subordinate units and more directly influence tactical actions. The tactical echelon is mobile and contains a minimal number of personnel and equipment, including the commander, communications and information systems operator(s), the G-2/S-2, the G-3/S-3, and the fire support coordinator. The tactical echelon is usually referred to as the command group. An alternate command post will be designated to be activated in the event that the command post becomes inoperative. It may also be activated during displacement of the command post to ensure continuity of command. The alternate command post could be one of the echelons of the headquarters, or it could be located at the headquarters of a subordinate unit. Normally, the alternate command post would be headed by the assistant/deputy commander. For example, the artillery regimental headquarters is often designated as the site for the alternate command post for the division.

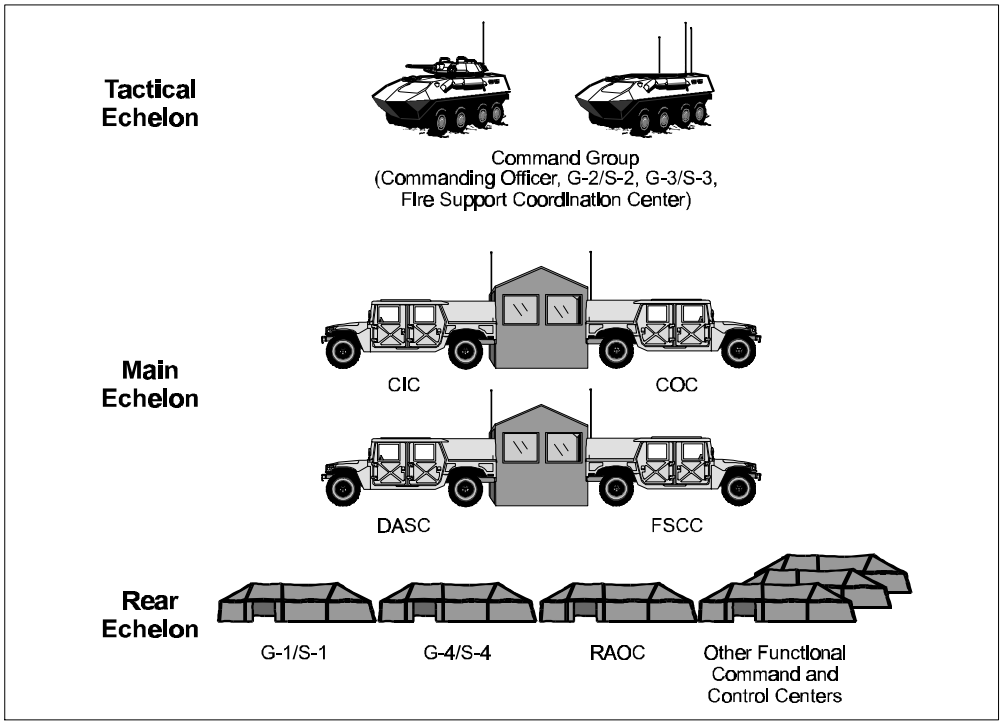


Figure 3-5. Command Echelons

The commander will position himself wherever he feels he can best influence the battle. Several factors govern where the commander positions himself. The commander must have access to the information he needs to make decisions and the communications he needs to disseminate those decisions. Because the communications and information systems support available at the main echelon is greater than that available in the tactical echelon, the main echelon will normally provide the commander with the best overall situational awareness and communications connectivity. Against this, the commander must balance the need to directly influence subordinates with his moral and physical presence and to see and feel the battlespace. Improvements in communications and information systems are providing more flexibility in making these choices. On the one hand, improved communications and information systems allow the commander to exert a virtual presence throughout the battlespace from a remote headquarters, which will often be seabased. On the other hand, those same improvements offer enhanced situational awareness and connectivity even when he is located far forward in a small mobile tactical echelon.

Normally, an echelon does not shut down and transfer operations to another echelon while it displaces. Each headquarters echelon must be able to displace and simultaneously exercise command and control. This is accomplished by organizing the echelon into two displacement increments. The echelon will then displace by increment. When the lead increment moves, it monitors the situation while the stationary increment directs operations. Once the lead increment establishes itself in the new location and reestablishes adequate situational awareness, it accepts control. The stationary increment then moves to the new location or another location ahead of the first increment. During displacement operations, an echelon should perform only those functions that are absolutely critical to support the battle or

operation. SOPs should determine the exact personnel breakout for displacement increments. During high-tempo operations, any or all headquarters echelons of the GCE may have to operate continuously in a displacement mode to maintain contact with maneuver elements. The elements discussed below are notional and will be tailored by the commander to meet the mission, forces and assets available, and his personal style of leadership.

a. Marine Expeditionary Force Command Element

(1) Marine Expeditionary Force Tactical Echelon. The tactical echelon consists of a single cell where operations, intelligence, and fire support coordination elements operate under the control of the G-3. Usually, the tactical echelon positions itself well forward, in the vicinity of a subordinate unit's headquarters. It may locate with or near the subordinate unit designated as the main effort. The tactical echelon must have adequate and continuous communications support to receive information and transmit orders from any location in the battlespace. It must be highly mobile to keep pace with rapidly maneuvering elements, to allow the MEF commander to move to the point of decision, and to provide a measure of security.

(2) Marine Expeditionary Force Main Echelon. The MEF main focuses on directing current operations and planning future operations. The MEF main includes a headquarters cell consisting of the chief of staff, the staff secretary, and command liaison elements that the MEF either receives or provides. The chief of staff coordinates the activities of the staff sections and cells that comprise the MEF main. The MEF main normally includes all of the principal staff sections and, within the operations section, a future operations cell and a current operations cell. Additional elements may be established to support functions needed in a particular operation. For example, in a humanitarian operation, the MEF commander may task the G-3 and/or the civil affairs officer to organize a civil-military operations center (CMOC) or cell to coordinate with government agencies and nongovernmental organizations. The CMOC could be either separate center or part of the combat operations center (COC) depending on the situation.

The MEF G-5 establishes a future plans cell to conduct long-range planning. Future plans works closely with the JTF headquarters to ensure that the MEF is prepared for its next mission. Products from future plans provide the basis from which future operations will develop the OPORD.

The MEF G-3 is responsible for both the current operations and future operations cells. The future operations cell is responsible for planning operations in support of the current mission. Future operations receives an initial plan and related material from future plans and begins detailed planning. Future operations consists of several full-time personnel from the G-3 section who form the core of an operational planning team. When the operational planning team is formed, it includes members of the G-1, G-2, G-3, G-4, G-5, and G-6 sections. Other appropriate staff sections join the planning team as needed. Representatives from subordinate units also join the team. Designated functional experts complete this group. The operational planning team remains together through mission analysis and course of action development,

analysis, and comparison/decision. These personnel then return to their respective work sections, complete annexes and appendices to the OPORD as required, and resume normal duties.

The current operations cell is responsible for directing the execution of current operations. Current operations personnel receive the plan from future operations and execute it. Current operations personnel man the MEF COC, from which they monitor MEF operations and respond to situations as needed (see Chapter 5 for a discussion of MEF staff organization in combat).

The MEF main is a relatively large organization that is time consuming to set up and to displace. It often locates in a built-up area to take advantage of fixed facilities. The MEF main projects a significant signature and is soft skinned and extremely vulnerable. It normally locates in the rear of the area of operations and displaces forward only when the tactical situation permits. The main relocates as needed to enhance its survivability. It must be capable of echeloned displacement to provide continuity of key functions. To reduce vulnerability and signature, the size of the MEF main should be kept to the minimum necessary. Depending on the situation and the character of the threat, it may be desirable to disperse some of the command and control facilities comprising the main. As the Marine Corps implements the OMFTS concept and improved seabased command and control capabilities become available, the MEF main will remain afloat in most situations. This will improve the survivability of MEF command and control while increasing the freedom of maneuver and operational flexibility of the MEF.

(3) Marine Expeditionary Force Rear. The MEF rear may perform several functions within the MEF area of operations. A MEF rear may be established to coordinate administrative and logistical activities while the MEF main maneuvers forward. The MEF rear may also be assigned responsibility for rear area operations. Rear area operations are extremely complex at the MEF level. Joint doctrine currently defines eight rear area functions that must be coordinated: area management, movements, infrastructure development, host nation support, security, communications, intelligence, and sustainment (see Joint Pub 3-10). The MEF commander may assign some or all of these functions to the MEF rear and others to the wing and the FSSG. If assigned overall responsibility, the MEF rear would require the capability to plan and conduct rear area operations. In this instance, the MEF rear would establish a rear area operations center (RAOC) to facilitate command and control of operations within the rear area. In situations where the main headquarters does not move forward and the MEF retains responsibility for rear area operations, the RAOC becomes another element of the MEF main.

(4) Marine Expeditionary Force (Forward). A MEB headquarters would normally be divided into echelons that function the same manner as the echelons of the MEF. However, the main echelon would be significantly smaller and more mobile. Consequently, seabasing of the MEB main is much less of a challenge than seabasing of the MEF main. The MEB headquarters would be focused on conducting either amphibious or maritime prepositioning force operations.

b. Marine Expeditionary Force Ground Combat Element

(1) Division Tactical Echelon. The division commander may establish a small, highly mobile tactical echelon to remain in proximity to the battle, gain first-hand situational awareness, and more directly influence tactical operations at critical times. Depending on the situation, either surface or air platforms, appropriately configured, provide mobility and communications for the tactical echelon. The division commander prescribes which staff members constitute the tactical echelon. A nominal tactical echelon would include the division commander, G-2, G-3, fire support coordinator, and communications and information systems operators.

(2) Division Main. The division main serves as the division commander's primary headquarters. Both current and future operations planning are accomplished in the division main. Division personnel monitor current operations from the division main, and if the commander is aboard, current operations are also directed from the division main. Although smaller than the MEF main, the division main is organized for command and control in a similar manner, including a future operations cell within the G-3 section. Current operations are directed from the division COC, which is typically manned with G-3 personnel; G-2 personnel; the division engineer; the division air officer; and nuclear, biological and chemical (NBC) personnel. The FSCC and the combat intelligence center (CIC) are usually collocated with the COC. The DASC is usually collocated with the FSCC. However, if the MEF GCE consists of more than one division, the DASC will be collocated with the FFCC at the MEF main.

(3) Division Rear. If the division is spread over a large geographic area, the division commander may establish a division rear. The division rear would normally serve as an administrative and logistical support base for the division. In this arrangement, the division main would consist of the COC, FSCC, CIC, and DASC. The division rear would include principal staff elements not required to plan and execute current operations (G-1, G-4, staff judge advocate, etc.). This arrangement reduces the footprint of the division main, allowing it to maneuver rapidly in high-tempo operations.

(4) Regiment/Battalion. Regiments and battalions also use the main, rear, and tactical echelon structure and establish COCs to monitor, coordinate, and direct operations. These echelons and COCs are much smaller than those found at the MEF and division levels because regiments and battalions have fewer subordinate units to command and fewer specialized functions to coordinate. At the regiment and battalion levels, the CIC and the FSCC will normally be integrated into the COC.

c. Marine Expeditionary Force Aviation Combat Element. The wing main serves as the principal headquarters for the wing commander. Like the MEF and division main, the G-2 and G-3 staff sections are located in the wing main, and future planning is done in the wing main. Wing future and current operations functions occur within the TACC, which is the heart of the wing main. The wing commander often locates the wing main at the airfield hosting most of the wing's fixed-wing aircraft. See MCWP 3-2, Aviation Operations, and MCWP 3-25.4, TACC Handbook, for additional information.

d. Marine Expeditionary Force Combat Service Support Element. The FSSG commander establishes the FSSG main to control and coordinate logistic support of the MEF. An FSSG main includes the principal staff sections, a future plans and deployment section, a CIC, and the CSS operations center (CSSOC). The future plans and deployment section ensures that the FSSG is prepared to support the next major mission of the MEF. Often, this new mission involves a deployment or redeployment. The CSSOC monitors current operations and plans near-term future operations. The FSSG main will typically be located near sea or aerial ports of debarkation in the MEF's area of operations. Subordinate battalions establish their own headquarters in proximity to the FSSG main. See MCWP 4-1, Logistics operations, for additional infomation.

e. Marine Expeditionary Unit (Special Operations Capable). The headquarters of the MEU(SOC) CE, as well as the headquarters of the GCE, ACE, and CSSE will normally be located afloat and remain afloat during operations. The CE headquarters will usually be located in the landing force operations center (LFOC) of an LHD/LHA. The MEU(SOC) depends heavily on shipboard command and control support but has the capability to establish a tactical command post airborne or ashore as necessary. Furthermore, in some situations, the MEU(SOC) may displace the main echelon ashore, along with the main echelons of the GCE, ACE, and CSSE, and operate independently of naval shipping.

f. Special-Purpose Marine Air-Ground Task Force. An SPMAGTF may or may not divide its headquarters into echelons depending on the size and composition of the SPMAGTF and the mission assigned. If the SPMAGTF is battalion size or larger, it will normally establish a COC to monitor, coordinate, and direct operations. The SPMAGTF may also establish other centers or cells to plan and coordinate specialized actions required by the mission.

g. Seabased Command and Control. OMFTS and the supporting STOM concept implement maneuver warfare principles and exploit planned improvements in weapons systems and command and control capabilities to enhance the ability of naval forces to conduct expeditionary operations in the littorals. The primary focus is the projection of combat power ashore through amphibious assault, including the supporting operations necessary to shape the littoral battlespace for that assault. However, the rapid maneuver and wide dispersion of forces involved in the execution of these concepts stretch the limits of current communications and information systems and make it difficult to maintain shared situational awareness and to disseminate decisions.

To conduct OMFTS, the MAGTF commander and the commanders of the GCE, ACE, and CSSE must have the ability to exercise command and control from aboard ship. The CE may remain embarked throughout STOM, normally moving ashore only if the MAGTF mission changes from naval power projection to sustained operations ashore. Likewise, the command and control structure of both the ACE and the CSSE will usually remain offshore. Although the GCE commander will likely establish a tactical command post either airborne or ashore, the GCE main command post will remain afloat, at least initially. By retaining command and control afloat, the MAGTF will take advantage of the command and control support capabilities of Navy platforms while greatly reducing the requirement for command and control nodes ashore. Elimination of these

vulnerable and relatively immobile facilities translates into greatly improved freedom of maneuver and improves the overall survivability of the command and control system. Seabasing of command and control also frees valuable lift space in the assault.

To exercise command and control afloat, MAGTF command and control must operate as an integral part of an overall naval command and control architecture. In many areas—including fire support coordination, air command and control, communications, intelligence, and electronic warfare—CATF's and CLF's staffs may be integrated. Command and control nodes of all elements of the MAGTF must function effectively throughout the operation, and shipboard spaces and facilities should be dedicated accordingly. MAGTF tactical information systems must be fully operational aboard ship with both LAN connectivity and broadband multichannel ship-to-ship and ship-to-shore communications connectivity. Significant shortfalls exist in the capability of amphibious ships to provide the required command and control facilities and communications connectivity, and this is an area of major concern.

As previously discussed, the MEU(SOC) normally exercises command and control from a sea base. Ongoing shipboard communications and information systems upgrades are improving the capability to support MEU(SOC) operations. The focus is on providing the MEU(SOC) CE and subordinate elements with command and control capabilities—systems, spaces, and communications connectivity—aboard amphibious ships. Amphibious ships receive communications and information systems upgrades just before MEU(SOC) embarkation to provide data communications networking capabilities for the deploying ARG. These upgrades are meant to provide the required communications connectivity and command and control capability needed for the MEU(SOC) to conduct both ARG and split-ARG operations. A similar but far more extensive and complex capability is required for the MEF to conduct OMFTS operations from a sea base. Such operations require shipboard facilities/spaces, information systems support, and communications connectivity for all of the MEF's major command and control nodes.

The Navy, in coordination with the Marine Corps, is upgrading shipboard communications and information systems capabilities. The implementation of planned improvements will enhance the MAGTF's ability to exercise command and control from aboard ship. However, the entire fleet will not be upgraded for a number of years. Moreover, currently there is no broadband, multichannel communications capability between the ships of the ARG and from ship to shore. Consequently, a large MAGTF—MEB or MEF—exercising seabased command and control of an OMFTS operation would, at least in the near- and midterm, have to cope with widely varying levels of command and control support and inadequate communications connectivity.

h. Split-Amphibious Ready Group Operations. Split-ARG operations have become commonplace. Virtually every MEU(SOC) is employed in a split configuration at some time during its deployment, either for exercises or for real-world operations. Although the MEU(SOC) is precluded from massing its full combat power while operating in a split configuration, such operations provide added flexibility to respond to crises. Through split-ARG operations, the MEU(SOC) can respond simultaneously to two or even three geographically dispersed

contingencies of limited scope. For example, two separate noncombatant evacuation operations might well be conducted simultaneously within a single theater of operations. A forward-deployed MAGTF capable of split operations offers a flexible, responsive, and cost-effective means of responding to such limited-scale contingencies. To effectively execute split-ARG operations, each ship of the ARG must provide the embarked elements of the MEU(SOC) with adequate command and control support and wideband intra-ARG communications connectivity—both line of sight and over the horizon. These capabilities are essential to allow the MEU(SOC) to exchange critical information and conduct collaborative planning to coordinate geographically dispersed operations.

Improved shipboard communications and information systems support is one of the key elements in improving the capability of the MEU(SOC) to conduct split-ARG operations. However, just as important are modifications to MEU(SOC) organization, doctrine, and training. These areas are also being addressed as part of the overall program to enhance the capabilities of the MEU(SOC).

i. Collaborative Planning. The need to generate and maintain operational tempo drives the MAGTF to use parallel planning rather than sequential planning when conducting operations. The old rule of thumb allocating one third of the planning time to the senior unit and two thirds of the time available for planning to be reserved for subordinate unit planning has been largely abandoned. This sequential approach is too slow for the modern battlefield. Units at various levels of the MAGTF plan concurrently based on the mission and the next higher commander's intent. However, parallel planning has its drawbacks. Chief among these is the opportunity for a subordinate unit's plan to become out of synchronization with the plan of the senior unit as well as with the plans of adjacent units. Through collaborative planning this danger is greatly reduced. Planners at all levels of the MAGTF not only plan concurrently, they also plan in concert with one another.

The improvements in information management and dissemination (these techniques are discussed in detail in chapter 5) provide the opportunity for the MAGTF to achieve more effective collaboration in the planning and execution cycle. Multiple users participating in the process can access information via the MAGTF intranet and enter, update, and delete their own records remotely. Staff sections and subordinate units can manage the information under their cognizance through secure, on-line facilities. On-line networking techniques allow planners to pull tailored information generated from current data. Updated information is available continuously throughout the planning and execution cycle. Everyone involved in the planning process can be kept abreast of and respond to an ever-changing operational situation. These capabilities support greater communication, broader and more meaningful information sharing and situational awareness, and increased collaboration among commanders, staff sections, and subordinate units.

Both technical issues and policy issues must be resolved to fully implement collaborative planning in the MAGTF. Some of these issues will be addressed in chapter 5 and fall within the realm of information management (e.g., who is responsible for collecting and maintaining information and who has access to that information). Configuration management of the plan as it is being developed will be critical and nontrivial. Several technical issues are currently unresolved—such as fielding of a digital signature function to ensure data integrity and permit data authentication and nonrepudiation. Even more limiting is the fact that the MAGTF intranet cannot currently support maneuver elements

operating ashore. However, none of these limitations should preclude MAGTF planners and information managers from developing innovative techniques to fully exploit the collaborative planning tools currently available.

j. Reachback. Closely related to collaborative planning is the use of communications networking techniques for electronic reachback. Electronic reachback can be used to reduce the size of deployed staffs through the use of specialists—military, government civilian, or consultant—that never deploy. The Marine Corps chemical/biological incident response force (CBIRF) provides an excellent example of this approach. The Marines in the CBIRF are linked electronically to civilian experts in government, academia, and the medical profession. This linkage allows instantaneous consultation between deployed CBIRF members and knowledgeable specialists located in universities, hospitals, and government organizations around the United States. A similar reachback capability in other areas holds tremendous potential for deployed MARFOR. In many cases, it is not possible to deploy personnel with the complete range of expertise needed to address all of the problems that will be encountered in the area of operations. Electronic connectivity can provide commanders with immediate access to foreign area experts and medical, legal, and other specialists with the necessary knowledge, information, and skills.

Section IV

C2 Centers

3401. Command and Control Centers. Command and control centers are established to support the headquarters of all units of battalion size or larger in the MEF.[5] From these centers, watch officers and cells from the various staff sections plan, monitor, coordinate, control, and support the day-to-day activities of the unit. These centers include the personnel, software, hardware, shelters, and ancillary equipment needed to support command and control. Each principal staff function is supported by one or more command and control centers. The ACE employs specialized command and control centers comprising the MACCS to provide the ACE commander with the ability to exercise command and control. Units of the MACG are responsible for installing, operating, and maintaining these centers. The key command and control centers supporting the functional areas of maneuver, intelligence, fires, aviation, logistics, and communications and information systems are discussed below, as are the shipboard command and control facilities that support the MAGTF. Adequate information systems support and data communications connectivity are essential for efficient operation of these centers.

a. Maneuver. The key command and control center in the MEF main is the COC. The COC supports the maneuver function and integrates information from all other command and control centers and functional areas. In most cases, the COC is collocated with the force fires coordination center (FFCC), which supports the fires function, and the MAGTF all-source fusion center (MAFC), which supports the intelligence function. These three command and control facilities work

[5] These command and control centers, especially when dealing with air command and control, are referred to as command and control agencies. They are also known as command and control facilities.

together closely, focusing on current operations and responding to the immediate needs of the MEF commander. Similarly, in the main echelon of GCE units, the COC is usually collocated or integrated with the FSCC and the CIC; these centers support maneuver, fires, and intelligence, respectively.

(1) Marine Expeditionary Force Combat Operations Center. The MEF COC consists of G-3 and G-2 watch officers and noncommissioned officers (NCOs), a senior watch officer, and a situation report watch officer. A number of enlisted Marines assist in operating tactical information systems, managing information, and maintaining situation displays and the common tactical picture. The G-2 and G-3 watch officers receive information from collocated MAFC personnel (intelligence) and FFCC representatives (fires and air), the surveillance and reconnaissance center (SARC), and subordinate and adjacent units. The G-2 and G-3 watch officers filter this information, update the common tactical picture as necessary, and forward critical items to the senior watch officer. The senior watch officer also receives information that affects current operations from other principal staff sections (G-1, G-4, and G-6). The senior watch officer evaluates information in the context of current operations and determines whether action is required and whether the common operating picture requires updating. Depending on the situation, the senior watch officer may be assisted in this process by other officers from current operations. On the basis of authority delegated by the MEF commander, the senior watch officer acts by either issuing orders or briefing the MEF commander and recommending action.

(2) Ground Combat Element Combat Operations Centers. The division COC, as well as regimental and battalion COCs in the GCE, functions in much the same fashion as the MEF COC. Current operations are directed from the division COC, which is typically manned with G-3 personnel, G-2 personnel, the division engineer, the division air officer, and NBC personnel. As at the MEF, the COC is the location for the G-2 and G-3 watch officers and NCOs. These watch officers monitor current operations by using the common tactical picture and coordinate activities for the commander. Their activities are based on situational awareness gained from the common tactical picture and on input, focusing on the commander's critical information requirements (CCIRs), from staff sections and other information sources. At the regimental and battalion levels, the senior watch officer and the operations watch officer may be the same individual, and other watch officers may be senior NCOs. It is important that these lower level COCs remain compact and lightweight for ease of displacement and to facilitate maneuver. At the battalion level and occasionally at the regimental level, the COC must be tailored as necessary to support footmobile operations.

At regiment and battalion levels, the COC is just beginning to be supported by automated tactical information systems and data communications. These systems support the information processing and exchange requirements of the COC and facilitate the monitoring and direction of current operations. The COC is the command's "nerve center" where information is fused to provide situational awareness for the commander and his staff.

Voice radio nets are used extensively in regimental and battalion COCs. However, in the near future, the fielding of information systems such as the Global Command and Control System (GCCS), tactical combat operations (TCO), and the Intelligence Analysis System (IAS) employing laptop and palmtop computers will mandate increased use of data communications. Strict procedures will be required to manage information flow to preclude overloading an extremely limited data communications capability. These procedures must focus on timely satisfaction of the CCIRs and maintaining the common tactical picture.

(3) Rear Area Operations Centers. Rear area operations may be tasked to the MEF rear. It may also be shared with or assigned to the FSSG and the wing, especially when the major subordinate commands (MSCs) are widely dispersed geographically. In any case, a RAOC facilitates the coordination of force protection within the rear area. The RAOC contains personnel to plan, coordinate, and direct security for the vast array of activities occurring in the MEF rear area. For MSCs, the size and scope of a RAOC would be driven by the unit's mission and rear area activities. At a minimum, the wing and FSSG would use one or more RAOC to coordinate security for the bases that they occupy. These RAOCs must include personnel with expertise in warfighting functions. A fire support coordinator must be assigned to plan and coordinate fires in the rear area.

b. Intelligence. The CIC is established under the G-2/S-2 within the MEF headquarters to provide centralized direction for the overall MAGTF intelligence effort. This organization serves the entire force by consolidating, validating, and prioritizing intelligence requirements from all MAGTF elements. The CIC links the MEF to theater, national, and allied intelligence assets. The CIC includes as key internal nodes the MAFC and the SARC. The CIC also provides small G-2/S-2 elements to support both the current and future operations cells. The CIC is supported by the reconnaissance operations center and the operations control and analysis center (OCAC).

(1) Marine Air-Ground Task Force All-Source Fusion Center. The MAFC provides intelligence analysis, production, and targeting information to the MEF. An integral part of the current operations effort, the MAFC is collocated with the MEF COC. The results of all surveillance, reconnaissance, and intelligence gathering flow into the MAFC, where these results are fused with previous collections and intelligence products are updated and disseminated.

(2) Surveillance and Reconnaissance Center. The SARC is the primary intelligence command and control node used to direct, coordinate, monitor, and supervise MAGTF intelligence collection conducted by organic, attached, and direct support assets. The SARC is located in proximity to the MEF COC. The SARC assigns collection tasks to various MEF assets: the force reconnaissance company, the sensor control and management platoon (SCAMP), the unmanned aerial vehicle (UAV) squadron, the radio battalion, counterintelligence (CI) detachments, interrogator-translator teams, the force imagery interpretation unit (FIIU), and the topographic platoon. Collection results are forwarded to the MAFC for incorporation into current intelligence products.

(3) Reconnaissance Operations Center. The reconnaissance operations center serves as a focal point for monitoring and supervising the employment of force reconnaissance. Located near the MAFC, this facility gathers information from dispersed teams, decrypts reports, and forwards information for fusion into the overall MEF intelligence situation display. Personnel manning the reconnaissance operations center assist reconnaissance teams with movement and other activities as needed.

(4) Operations Control and Analysis Center. The OCAC provides centralized direction, management, and control of signals intelligence (SIGINT) and electronic warfare activities within the MEF and coordinates with external theater and national assets. Assigned personnel process, analyze, and disseminate collected information. The OCAC is located within the MEF headquarters compound near other intelligence agencies. The OCAC provides an interface between the radio battalion and the MEF G-2.

(5) Intelligence Center. The G-2/S-2 will establish intelligence centers at all echelons of the MAGTF down to the battalion level. Personnel assigned to the intelligence center will collect, process, integrate, analyze, evaluate, and interpret intelligence and continually update the enemy situation. This information will be rapidly provided to current and future operations. These centers will be collocated with the COC whenever possible.

c. Fires. Command and control centers are established in all maneuver units to coordinate fire support and in artillery units to exercise tactical and technical fire support direction.

(1) Force Fires Coordination Center. The FFCC is established at the MEF level to assist the MEF commander in planning and coordinating deep fires. The FFCC performs three primary functions for the MEF: planning, acquiring, and maintaining target information; coordinating and integrating MAGTF-level fires with future operations; and coordinating and integrating MAGTF-level fires with current operations. Located within the MEF main, this facility assists both future operations and current operations in their targeting functions. Additionally, the FFCC provides coordination between the MEF and JTF targeting boards and centers. FFCC watch officers may be integrated with the COC to facilitate coordination of deep fires.

(2) Fire Support Coordination Center. Each Marine ground combat organization from division to battalion level employs an FSCC as an advisory and coordination agency. The FSCC is collocated with the COC. The senior FSCC coordinates and deconflicts fire support efforts among subordinate units and centers. The FSCC includes the fire support coordinator, artillery liaison, tactical air control party (TACP) personnel, and a naval surface fires liaison. At division level the artillery regiment commanding officer serves as the fire support coordinator. At lower levels, each commander appoints a fire support coordinator from his staff.

(3) Fire Direction Center. Fire direction centers (FDCs) exist at artillery regiments, battalions, and batteries. These organizations permit respective commanders to plan and control fires. Fire direction activities may be centralized or decentralized. At regimental and battalion

levels, the FDC exercises tactical fire direction. The battery FDC provides technical fire direction by determining firing data. This firing data is issued to artillery sections through fire commands. Battery FDCs are also capable of tactical fire direction and would perform this function in cases, such as MEU(SOC) deployments, when the battery operates independently.

(4) Electronic Warfare Coordination Center. The electronic warfare coordination center (EWCC) facilitates coordination of electronic warfare operations with other fires and communications and information systems. This center coordinates efforts by the G-2, G-3, and G-6 to eliminate conflicts between these overlapping battlespace functions. The EWCC is under staff cognizance of the G-3. Assigned personnel identify potential conflicts in planned operations and work to resolve these issues. The EWCC includes an electronic warfare officer, a communications and information systems representative, and other liaison officers as needed. Liaison could include radio battalion representation, airborne electronic countermeasures officers, a MACG radar officer, and other-Service representatives.

d. Aviation. The MACCS provides command and control support for the ACE in the form of several unique command and control centers. The responsibility for installing, operating, and maintaining these centers, usually referred to as agencies, is the primary mission of specialized units comprising the MACG. This approach is in contrast to the way in which COCs are installed, maintained, and operated in support of the other elements of the MAGTF. Only the ACE has personnel trained and assigned to units whose primary mission is command and control support. MCWP 3-25, *Control of Aircraft and Missiles*, and publications in the MCWP 3-25.1 through 3-25.12 series provide detailed tactics, techniques, and procedures for aviation command and control and for the employment of MACCS agencies. The agencies of the MACCS have an extremely large footprint; this adversely affects the strategic mobility of the MEF.

(1) Tactical Air Command Center. The TACC is operated by personnel from the ACE staff, the MTACS, and the MACG staff. The TACC is the senior MAGTF air command and control agency. The TACC provides the operational command post from which the ACE commander and his staff plan, supervise, coordinate, and execute all current and future MAGTF air operations. The TACC provides the capabilities necessary to integrate, coordinate, and direct air operations in support of the MAGTF. The TACC interfaces with the other ACE command and control agencies, other MAGTF elements, and external civil and military air control organizations. Its primary MAGTF CE interface is with the FFCC/COC. The TACC's primary external interfaces are with the joint air operations center (JAOC) and the Navy tactical air control center (TACC) and with other Services' air operations centers. In addition to serving as the ACE command post, the TACC provides the capabilities necessary for the ACE commander to serve as the JFACC.

The wing commander conducts future operations planning and current operations monitoring from the TACC. A G-3 future operations officer leads the future operations planning and is supported by an intelligence cell and representatives of each aviation function and aircraft type. The future operations section produces the air tasking order (ATO), and the current operations

section monitors the execution of the ATO. The G-3, or a senior G-3 representative, serves as the senior watch officer within the current operations section. Air control personnel man this section, with some assistance from intelligence watch personnel and pilots. The current operations section primarily monitors aircraft missions controlled through subordinate air control agencies. The TACC uses specialized information systems and equipment to display a common picture of the aviation situation received from tactical digital information links. Each Marine aviation function (antiair warfare, assault support, electronic warfare, air reconnaissance, offensive air support, and control of aircraft and missiles) has representatives in the TACC.

(2) Direct Air Support Center. The DASC is established by the MASS and processes immediate requests for air support, coordinates aircraft employment with other supporting arms, manages terminal control assets such as FAC(A) and ASC(A) supporting ground forces, and will provide procedural control of assigned aircraft, unmanned aerial vehicles, and itinerant aircraft transiting through its assigned area. The DASC can employ a DASC(A) aboard a KC-130 that will provide extended line of sight communications with low flying aircraft.

The DASC will normally be co-located or electronically linked with, the senior fire support coordination agency ashore. In the case of a MEF operation in which there are multiple maneuver elements (Divisions) within the GCE , the DASC may be located with the MAGTF force fires coordination center (FFCC), in order to centralize the management of CAS and assault support between the GCE maneuver elements, in accordance with the MAGTF commander's intent. In all cases the DASC will usually deploy air support elements (ASE) to each major maneuver element FSCC, to provide them with the necessary links to the MACCS, in order to request and coordinate direct air support. The size and composition of the ASE will vary, and can be expanded or reduced as the current situation requires (consistent with the assets available). The DASC only has the capability to provide "procedural control" for aircraft operating in its AOR. In amphibious operations, the DASC will normally land in the same scheduled or on-call wave as the senior FSCC phased ashore.

The DASC is normally the first major air control agency ashore in amphibious operations because it is usually collocated with the supported GCE COC/FSCC. Air support personnel control aircraft en route to the forward air controllers serving with infantry units. DASC controllers also monitor helicopter missions. The DASC assists GCE units in obtaining additional air support, either fixed-wing aircraft or helicopters, by processing immediate air support requests. Because of their proximity to the senior FSCC, DASC personnel help the wing commander to maintain awareness of the ground combat situation.

TACPs provide coordination between GCE units and supporting aviation assets. TACPs exist at the infantry division, regiment, and battalion levels. Depending on the command level, a TACP contains a combination of air officers, forward air controllers, and enlisted radio operators. Air officers serve at the division, regiment, and battalion levels. These officers serve as special staff officers to their respective commanders. Additionally, they may serve within the FSCC to assist with planning and deconfliction functions related to air support for the assigned

unit. Forward air controllers provide terminal control of close air support aircraft that are passed to them by the DASC. These officers also advise GCE commanders on aviation capabilities and limitations and prepare requests for air support.

Marine pilots and aircrews often serve as airborne extensions of the MACCS. The tactical air coordinator (airborne) serves as an extension of the DASC and coordinates aircraft en route to close air support missions. The tactical air coordinator (airborne) receives aircraft handoffs from the DASC, briefs those aircrews, then turns these missions over to ground or airborne forward air controllers for terminal control. The assault support coordinator (airborne) also serves as an extension of the DASC and coordinates complex helicopter missions. The assault support coordinator deconflicts transport packages, escort packages, and fire support efforts throughout the mission. Airborne strike coordination and reconnaissance is a means to efficiently focus aviation fires in the deep battlespace. This function, which is usually performed by multiseat F/A-18 aircrews, allows real-time reconnaissance to locate the MEF commander's high-priority targets. Once located, the strike coordination and reconnaissance aircrews control attack aircraft in much the same manner as a tactical air coordinator, cycling and deconflicting multiple strike packages as they ingress to the target area.

Several employment options are available for the DASC, including an airborne configuration in a C-130. MASS assets are tailored to provide support based on the mission. A MEF could require the task organization of the assets of more than one MASS. At the MEU(SOC) level, a MASS detachment would be task organized as an air support element. The size and capability of the MEF DASC depend on the number of TACPs that will be requesting air support and the number of aircraft executing air support missions. The DASC maintains communications connectivity with the other MACCS agencies, the FSCC, aircraft under its control, UAV squadron(s), and joint and other-Service air support organizations. The DASC also requires connectivity with forward-based air assets to request launches in support of ground forces.

(3) Tactical Air Operations Center. The MACS provides the equipment and personnel for the operation of the TAOC. The TAOC provides the ACE with the capability to detect and identify hostile aircraft and missiles, to control the interception of hostile aircraft and missiles, and to provide navigational assistance to friendly aircraft. MACS personnel assigned to the TAOC use specialized information systems, sensors, and dedicated communications links to search the MEF airspace and coordinate air defense for vital areas. The TAOC controls friendly aircraft in the interception of hostile aircraft and assists missile units in locating and destroying hostile aircraft. Information gained through radar and tactical digital information links is transmitted to the TACC and updates the air picture for the wing commander. The TAOC also interfaces with the Air Force air operations center and control and reporting center to coordinate joint air defense efforts. The TAOC is movable but not mobile and is located in the rear of the MEF area of operations. The TAOC is often located at a fixed-wing airfield. A MEF will normally deploy with one or two MACSs (task organized) to operate and maintain the TAOC. Normally, a MEU(SOC) has no requirement for a TAOC, but an early warning/control capability may be task organized as part of an SPMAGTF if required.

(4) Marine Air Traffic Control Detachments. Air traffic control detachments are components of the MACS. They are task organized to provide terminal air traffic control for expeditionary airfields and other FOBs. The detachment provides airspace control, management, and surveillance for its designated sector or area of responsibility. Services include radar approach/departure control, precision and instrument approaches, control tower, and tactical air navigation (TACAN). Detachment radar contributes to the overall air surveillance effort, and the detachment coordinates with Stinger teams that are defending airfields to assist them in detecting hostile aircraft. The detachment serves as the MAGTF's liaison with national and international air traffic control agencies.

The MACS has four air traffic control detachments. All four would be required to support a MEF operation for which four expeditionary airfields and up to four other facilities or sites could be established. Large radar systems, support equipment, and shelters are used to provide this MEF-level support. Deployment options include a mobile team capability. The mobile team is task organized to provide an initial, rapid-response capability for the establishment and control of tactical landing zones. A MEU(SOC) would normally deploy with a mobile team.

(5) Low-Altitude Air Defense Battalion. The LAAD battalion establishes a COC from which the LAAD battalion commander exercises overall command and control of LAAD battalion operations. The battalion is comprised of two batteries with three platoons per battery and three sections per platoon. A section, the smallest employable LAAD element, has five Stinger teams that may be any combination of man-portable and high-mobility, multipurpose wheeled vehicle (HMMWV)-mounted Avenger teams. A MEF is normally supported by the entire battalion, but MEU(SOC) support is normally provided by a single section. LAAD units are routinely task organized to support various contingencies. LAAD section leaders/platoon commanders/battery commanders will be positioned where they can best provide command and control of their units and maintain connectivity with the MACCS and/or supported units. When operating in general support of the MAGTF, collocation with the TAOC is desirable to facilitate integration into the overall MEF air defense effort and to provide access to the air defense picture. When operating in direct support of the GCE, collocation with the DASC provides a means to receive the air defense picture and cueing from MACCS sensors. When information from other MACCS sensors is not available, the section employs a lightweight, short-range organic radar to detect aircraft and cue Stinger teams.

e. Logistics

(1) Combat Service Support Operations Center. The CSSOC serves as the hub for future and current operations planning within the FSSG main. Each CSS functional area (supply, maintenance, transportation, engineering, health services, and services) provides representation to the CSSOC. Under the supervision of a G-3 watch officer, these personnel monitor current operations and maintain status displays of friendly and enemy situations. Additionally, CSSOC personnel handle requests from subordinate units and keep the MEF informed of the CSS

situation. FSSG commanders may choose either a centralized or decentralized configuration for their CSSOCs.

(2) Combat Support Detachments. Depending on the situation, the FSSG commander establishes forward detachments to provide direct support to the GCE. Detachment commanders may establish small CSSOCs to coordinate support and monitor logistic communications nets. In this instance, the CSSOC would resemble a tactical echelon of the FSSG. Communications connectivity would be predominantly through single-channel radio.

(3) Movement Control Center. Movement control centers support the deployment of the MEF from the home station, through intermediate bases, to the destination. The MARFOR commander establishes a headquarters movement control center, which provides connectivity to the U.S. Transportation Command (USTRANSCOM) and keeps the MEF force movement control center apprised of strategic movement issues. The force movement control center controls and coordinates all movement support and conducts liaison with the Air Mobility Command, Military Sealift Command, and Military Traffic Management Command. The force movement control center supervises efforts of unit movement control centers of the division, wing, and FSSG. These latter units provide transportation and communications assets in support of deployment activities. Bases and air stations from which Marine units deploy establish base or station operations support groups to coordinate their efforts with those of deploying units. These bases also provide their transportation and communications assets in support of deploying units. These units augment unit movement control centers to ensure that all personnel and materiel arrive at sea and aerial ports of embarkation.

(4) Logistic Cells. The G-4/S-4 of ground combat units will establish logistic cells in both the main and rear echelons. In the main echelon, the CSS cell will monitor the logistic situation and keep the common operating picture current with respect to the logistic status of the unit. The CSS cell will interact with the current operations cell to ensure adequate CSS for the current operation and coordinate with the future operations cell to ensure the logistic supportability of future operations. The focus of the CSS cell in the rear echelon will be on coordinating logistic support for the unit from supporting CSS units. The rear cell will collect and analyze logistic data, provide projected CSS status information, and plan and control administrative movements.

f. Communications and Information Systems. At the MEF level, the communications and information systems officer, the G-6, exercises technical direction and overall control over the MAGTF communications networks and information systems from the MEF communications control center (MCCC). The G-6 also coordinates with the controlling authorities of external communications networks. The G-6 is assisted in these responsibilities by the communications battalion. Communications control is performed at all echelons of the MAGTF down to battalion level by the G-6 or the S-6 with the assistance of organic and supporting communications units or detachments.

Communications control consists of three primary functions: systems planning and engineering, systems control, and TECHCON. Systems planning and engineering tasks include determining the communications and information systems requirements of the organization; designing the communications networks to support those requirements; and promulgating communications and information systems plans, orders, and directives. Systems control involves supervising, coordinating, and controlling the overall day-to-day operation of MAGTF communications networks, and TECHCON is the centralized technical supervision of the installation, operation, and maintenance of MAGTF communications networks.

Systems planning and engineering at any echelon involves the design of communications networks. These networks are designed and subsequently engineered to meet the operational requirements as determined by the communications and information systems officer. Circuits are determined by G-6/S-6 systems planning and engineering personnel by type and number to meet the internal and external communications requirements of the command. The systems planning and engineering personnel normally perform their duties in a suitable facility as part of the G-6/S-6 staff in the main command post. The MEF G-6 as the senior communications and information systems officer directs the overall systems planning and engineering effort. The communications battalion provides personnel to support systems planning and engineering at the MEF level. The G-6/S-6 at lower echelons, with assistance from the supporting communications unit/detachment, plans communications support in accordance with the overall MEF communications plan.

Systems control consists of all activities needed to monitor communications and information systems operations and resolve conflicts. Headed by the operations officer of the supporting communications unit, the systems control staff establishes the OSCC to maintain current information on the availability and operational readiness of communications and information systems.

TECHCON is the centralized technical supervision of the installation, operation, and maintenance of the communications and information systems of the MAGTF. At the MEF level, the TECHCON operations staff supervises the installation, operation, and maintenance activities of the communications battalion companies and/or their detachments. The TECHCON operations staff is supported by and directs the activities of the TECHCON facility.

(1) Marine Expeditionary Force Communications Control Center. To coordinate and direct communications control efforts, the G-6, with staff augmentation from the communications battalion, establishes the MCCC. The MCCC coordinates external communications control with the JTF or CINC J-6 through the joint communications control center as described in CJCS Manual (CJCSM) 6231.07, *Joint Network Management and Control*. An MCCC may also be required to provide communications control support to the Marine component headquarters. Augmentation from other communications battalions would be required to support separate MEF and Marine component communications control centers. The MCCC is required at the MEF level because of the complexity of communications control responsibilities and functions.

(2) Operational Systems Control Center. The systems control staff supervises the OSCC activities. The OSCC directs the day-to-day operation of the communications networks, compiles statistics and reports for use in long-range planning, and serves as the focal point for coordination of user requirements and allocation of communications and information systems resources. The communications battalion provides the MEF operational systems control staff and mans the OSCC. In a similar fashion, the supporting communications unit at each MSC provides the operational systems control support for its command. At lower echelons, operational systems control functions are generally performed by organic communications unit personnel without establishing an OSCC.

(3) Technical Control Facility. The TECHCON facility provides centralized technical supervision of the installation, operation, and maintenance of selected circuits, terminal equipment, and dedicated services. The TECHCON facility provides the means to conduct technical supervision of circuits and coordinate with other facilities for circuit troubleshooting and restoration. The size and scope of this facility are driven by the number of units being supported and types of services provided. Personnel assigned to the TECHCON facility must have the technical expertise and experience to resolve complex communications problems.

g. Amphibious Command and Control Facilities. When the MAGTF is embarked aboard amphibious shipping, the MAGTF commander serves concurrently as the commander of the landing force. While embarked, the MAGTF commander and his staff direct the actions of the MAGTF from command and control facilities aboard the amphibious ships. Under the OMFTS concept, MAGTF command and control may remain afloat throughout the amphibious operation. Shipboard command and control facilities also support CATF, who normally is located with his staff in the flag plot aboard the flagship.

(1) Landing Force Operations Center. The LFOC is the shipboard space allocated to CLF and staff to plan and execute landing force operations. The LFOC is normally located on the ATF flagship. The LFOC staff are the same personnel who man the MAGTF COC when and if it is phased ashore in an amphibious operation. The functions of the LFOC mirror those of the COC. This center controls and monitors the activities of the landing force until CLF establishes command ashore.

(2) Supporting Arms Coordination Center. The SACC exercises overall coordination of supporting fires within the amphibious operating area. This center, located aboard the amphibious flagship, consists of a supporting arms coordinator and naval gunfire, air support, and target information sections. ATF operations, intelligence and communications, and landing force fire support personnel perform the functions of the SACC. These functions are similar to those performed by the FFCC and FSCC that may be subsequently established ashore. A landing force liaison is established in the SACC if the responsibility for coordination of supporting arms is passed ashore.

This center provides the commanders of the ATF and the landing force with information concerning the requirements and developments that affect coordination of fire delivery by naval gunfire units, support aircraft, and artillery units. Fire support requests received from the ATF or landing force are coordinated from this center to ensure that all fires are integrated to achieve the maximum effect against targets. Current fire support information is continually updated and displayed while direction for the execution of restrictive fire plans and instructions concerning troop safety is promulgated. Naval gunfire plans are prepared and their execution is supervised by the SACC staff. This center also coordinates air support operations with appropriate ATF and landing force air control agencies. Records of targets in the objective area are maintained and appropriate fire support activities are monitored when responsibility for the coordination of fires is passed ashore to CLF.

(3) Tactical Air Control Center (Afloat). The tactical air command center (afloat) (TACC(A)) is organized and located in CATF's flagship. The TACC(A) provides the means to direct and coordinate all tactical air operations in an objective area, including antiair warfare, until this responsibility is transferred to Marine air control agencies ashore. The TACC(A) consists of a tactical air controller; an air support controller; an antiair warfare coordinator; and appropriate operations, intelligence, and communications personnel and equipment. These personnel and their equipment are provided by the flagship, CATF's staff, and a designated tactical air control squadron.

(4) Helicopter Direction Center. The helicopter direction center (HDC) is organized aboard the flagship of the helicopter transport group to provide the means to direct and control helicopters during the ship-to-shore movement. It consists of a helicopter director, who is responsible to the tactical air commander for direction of all helicopters and supporting aircraft; a helicopter direction net officer; a helicopter air controller; and other appropriate air operations and communications personnel and equipment. These personnel and their equipment are normally provided by the flagship on which the HDC is established.

To effect the direction and control of helicopter movement in an objective area, the HDC must operate under the overall direction of the TACC(A) for coordination of air operations with other agencies and under the OPCON of the helicopter transport group commander. This center advises the TACC(A) on all matters pertaining to the movement of helicopters that require coordination with supporting arms. It provides information as directed by the TACC(A) and the helicopter transport group commander and maintains status of availability and location of assigned helicopters. The HDC also receives requests for helicopter support, designates units to provide the helicopters for specific missions, and directs their employment. This center further controls the movement of helicopters, both transport and escort, from wave rendezvous to the initial point and from takeoff at the landing zone to the breakup point. The HDC also controls movement of helicopters between platforms and assists the DASC in controlling helicopters between ship and shore after the control of helicopters has been passed ashore.

(5) Tactical-Logistical Group. Tactical-logistical groups (TACLOGs) are temporary agencies that are organized as required by the landing force to assist the naval control organization in the ship-to-shore movement of troops, equipment, and supplies. They are normally established aboard control ships at each echelon of the MAGTF, along with the naval control agency that is exercising control over the ship-to-shore movement of that echelon during a surface landing. They are also established aboard each helicopter transport carrier during vertical assaults. A TACLOG consists of operations, CSS, embarkation, and communications personnel provided by the parent ground combat organization.

The TACLOG assists the corresponding naval control agency in handling landing force requirements during the ship-to-shore movement. It is task organized to advise the naval control agency as to the location of units, equipment, and supplies and to monitor their regulated movement ashore. The TACLOG maintains a detailed record of the status of unloading and landing, provides information to appropriate commanders concerning the progress of the ship-to-shore movement, and responds to routine requests received from units by coordinating with the naval control agency. It further advises the naval control agency when the tactical situation ashore dictates an adjustment to the prescribed landing sequence.

(6) ATF Intelligence Center. The ATF intelligence center (ATFIC) is the principle intelligence command and control and operational node for both the ATF and the landing force. The ATFIC is normally located on the amphibious force flagship. I brings together naval and possibly other component's intelligence command and control and operations resources and capabilities in an integrated, mutually supporting manner. In this way, available intelligence resources are used most effectively in support of ATF, landing force, higher and other forces' intelligence requirements.

Chapter 4

The MEF Deployed

4001. Deployed Operations

Ideally, the staff would function in garrison as it does when deployed. In reality, garrison operations and field operations differ significantly. Continuous operation on a wartime footing is prohibitively expensive in terms of wear and tear on equipment as well as on personnel. When units deploy they establish headquarters consisting of command and control centers to plan, monitor, coordinate, control, and support operations around the clock. These centers comprise the personnel, systems, equipment, and facilities needed to support

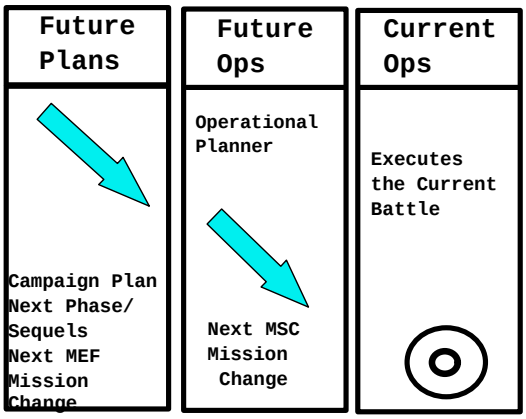


Figure 4-1. PDE&A Cycle.

command and control. Each warfighting function is supported by these command and control centers. Paragraphs 3002 and 3003 of chapter 3 discussed concepts of employment for MAGTF headquarters and the operations of MAGTF command and control centers, respectively.

4002. PLANNING, DECISION, EXECUTION aND ASSESSMENT (PDE&A) CYCLE

Modern warfare requires an efficient Planning, Decision, and Execution and Assessment (PDE&A) cycle. Speed of information receipt, processing, decision and dissemination is critical. The PDE& A cycle (see figure 4-1) is the master process that MEF uses as a basis for operational level decision making. It allows the MEF Commander to get inside the enemy's observation-decision-action (OODA) loop. This approach has radically altered traditional style lines by "flattening" the staff. Critical information now moves faster because Action Officers and supporting personnel are no longer required to pass information to the section head before it is passed to another section. Foremost, as a warfighting command directing multiple divisions or as a JTF with Joint or Combined Components, MEF must

function above the tactical level of war. The PDE& A cycle is a tool that permits MEF to connect operational level goals to tactical actions.

The PDE& A cycle extends beyond crisis action planning and execution to encompass the tasks beginning with receipt of initial mission through mission execution and completion. Next, the PDE& A Cycle is highly adaptable. It is successful in the different geographical and political environments of the Unified Commands, combat operations, OOTW, and the employment of MEF as either a JTF, a Marine Component of a Joint or Combined Force, or as a smaller task organized MAGTF. The practical reason for this flexibility is that as an organization, MEF requires a single, dependable process each time it deploys for operations or exercises. Finally, the MEF PDE&A cycle is driven by conditions and events concerning the friendly and enemy situation rather than adherence to a time schedule. These conditions and events are used to ensure that operations are initiated only when there are acceptable levels of risk. The MEF planning continuum begins at the operational level of war and is keyed to the functions of the Current and Future Ops, and Future Plans.

4003. CONUS to Theater C2

During the initial stages of a crisis, the Crisis Action Team (CAT) is formed. The CAT becomes the principal coordinating agency and focuses on the deployment of forces, equipment, and supplies into theater. MEF planning responsibilities are focused in the Operational Planning Team (OPT) under the cognizance of the G-5 Future Plans Officer for deliberate and campaign planning, or under the G-3 Future Operations Officer for frag order development. Using the warfighting functions (WFs) as the foundation of integrated planning helps the commander more effectively organize and develop a vision and concept of operations. Specifically, integrating the use of the WFs across the planning effort eliminates any tendency to "stovepipe" these interdependent activities.

Early command and control forward is critical, and the MEF Commander will normally deploy a MEB and enabling communications into theater as quickly as possible. The MEB provides operational agility to the MEF Commander and supports the following core capabilities: maneuver, fires, intelligence, force protection, CSS/Logistics and command and control.

The MEB is limited in its ability to conduct detailed planning for future operations as well as provide all-source fused intelligence to include detailed intelligence preparation of the battlefield (IBP), target intelligence, battle damage assessment (BDA) and most collection operations. Additionally, the MEB deploys with minimal sustainment. The MEB core will be tailored based upon mission analysis and direction from the supported CINC.

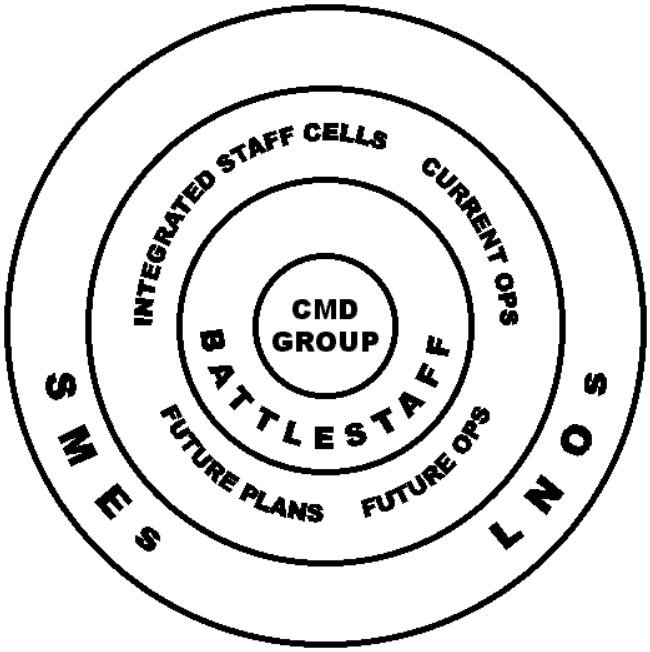
MEB functions include:

- Act as lead C2 element of the MEF.

- Assume C2 of forces arriving in theater and position these forces for future operations per the current OPORD/OPLAN
- Report to the Marine Component (MARFOR) as the on scene MAGTF Commander
- Receive and implement guidance and orders from in-theater HHQ
- Be prepared to function as the MARFOR reporting directly to the CINC or JFC
- Maintain current intelligence/threat situational awareness
- Provide local/tactical indications and warnings (I&W) and treat assessment in support of force protection
- Assume TACON of forward-deployed forces (MEU's/SPMAGTF's) if directed
- Provide the MEF Commander with timely, accurate and critical information through a reach-back communications capability
- Maintain contact with and provide situational awareness of adjacent units at the tactical level
- Coordinate force protection and supervise the Security Assessment process
- Perform duties as the Arrival and Assembly Operations Group (AAOG) in support of MPF operations (as tasked)
- Provide initial airspace and aircraft bed-down planning
- Force track inbound units
- Conduct initial terrain management
- Initiate Host Nation liaison
- Coordinate sustainment requirements

As the remainder of the CE arrives in theater, it begins the stand-up process to assume C2 responsibilities as the Main CP. When adequate C2 systems are in place and upon arrival of the MEF Commander, control of MEF forces in theater is transitioned to the Main CP and the MEB is dissolved.

4004. STAFF FUNCTIONING



When the MEF deploys, it adopts a non-linear organizational structure that is different than the Napoleonic staff organization used in garrison. In such a system, the CE should be thought of as the central hub is connecting a number of circles (see figure 4-2). At the center of this hub is the

Figure 4-2. Command Element Organization

Command Group. Working outward from this hub is the Battlestaff and Integrated Staff Cells. These cells represent the major staff sections and major subordinate commands (MSCs). Therefore, information is shared and disseminated faster, and the entire staff participates throughout all stages of the PDE cycle.

a. Command Group. The Command Group consists of the MEF Commander, Deputy Commander, and the Chief of Staff. The Command Group is the primary decision-making body. The MEF Commander will issue specific guidance regarding which decisions will remain his prerogative and which may be delegated. In general, C2 nodes will act within the current order (OPORD, FragOrder) and the Commander's Intent, while the Command Group maintains decision authority for any significant changes, Force CHOP (change of operational control), shifts in main effort, commitment of reserve, etc.

b. Battlestaff. The Battlestaff consists of the principal staff officers, AC/S G-1 through G-6 and designated Special Staff. The Battlestaff members are the MEF Commander's primary advisers. They will closely monitor the areas under their staff cognizance, and provide detailed recommendations, information and analysis to the Future Plans and Future Operations Cells. The Battlestaff has six main functions:

- Receive information
- Distribute information
- Analyze information
- Make recommendations to the Command Group
- Integrate resources
- Synchronize resources.

c. Integrated Staff Cells

1. Future Plans (FutPlns)

a. The FutPlns cell, chaired by the AC/S G-5 and including representatives of the Battlestaff, MSCS and Subject Matter Experts (SMEs), conducts detailed planning for the MEF's next mission. FutPlns will normally construct the MEF's Campaign Plan and establish timelines and phases. They will work closely with MEF HHQ's FutPlns to ensure that the MEF is assigned adequate resources and appropriate battlespace for the anticipated mission.

b. G-5 FutPlns ensures the MEF plan for the current campaign and future battle is synchronized with the supported CINC’s intent and compliments the other components/adjacent command’s plans. FutPlns focus is to keep the MEF from reaching a culminating point. Specific tasks include:

- Develops a campaign plan, and branches and sequels
- Develop a scheme of maneuver for MEF Commander approval for the next battle.
- Develop command relationships and concept for sustainment
- Determine resources required for the campaign, campaign phase or next battle and requests those resources be apportioned
- Develops support requirement plans from HHQ and adjacent commands
- Develops reconstitution requirements
- Develops redeployment plan

2. Future Operations (FutOps)

a. The FutOps Cell, under the direction of the AC/S G-3, is chaired by the G-3 Future Operations Officer and includes representatives of the Battlestaff, MSCs and SMEs. Future Operations conducts detailed planning for MSC's next mission change.

b. FutOps focuses on new frag order/change to the mission for the MSC's elements and forms and leads the integrated planning effort. Tasks include:

- Develops branch plans and refines sequels
- Coordinates with G-5 for US Government (USG), CINC and Service support
- Develops potential Commander's Critical Information requirements (CCIRs), Priority Information Requirements (PIRS)
- Plans to maintain the initiative and avoid unnecessary operational pauses
- Interacts with Force Fires Coordinator and MEF Target Board to shape the battlespace for the next MSC mission change
- Drafts initial OPORD or frag order
- Transitions the plan to Current Ops for execution. (Key is to maximize time for MSCs to react to the frag order).
- Develops briefing slides and decision aids as required

3. Current Operations (CurOps)

a. CurOps, which includes Current Intelligence, Current Fires, and representatives of the Battlestaff. Under the direction of the AC/S G-3, the Current Operations Officer coordinates the current battle and ensures adherence to the MEF Commander's Intent.

b. CurOps tasks include:

- Provides nucleus of “remain behind” element during force deployment
- Executes plan
- Monitors close battle
- Analyzes battlespace events and information
- Interprets battlespace events
- Assesses battlespace events
- Assesses CCIR collection

w Coordinates with Force Fires Coordination Center (FFCC) and FutOps to adjust current plan

wProvides basis for command decisions

w Coordinates and monitors execution of force deployment (s)

w Transmits orders and tactical decisions

w Responsible for execution of the OPORD

w Develops frago (s) from FutOps input for the current OPORD necessary to execute the current battle.

w Establishes information requirements/criteria to facilitate rapid decision-making.

d. Enabling Functions

1. Intelligence. Command and control involves making and executing decisions. The main purpose of intelligence is to support the decision-making process by reducing uncertainly about a hostile situation. The AC/S G-2 reduces uncertainly by providing accurate, timely, and relevant knowledge about the enemy and the surrounding environment. He does so by providing intelligence support to FutPlns and FutOps (in the form of detailed Intelligence Preparation of the Battlefield (IPB), Current Operations (I&W), enemy situation development, and collections and operations, fires (Tgt Intel and Battle Damage Assessment (BDA), and force protection Counter-Intelligence (CI).

2. Fires. The MEF Fires Section is the primary agency with which the MEF Commander prosecutes the current Battle and shapes conditions for the next battle. Both aviation fires and long-range artillery and missile fires are integrated into this section. The MEF Fires Section, under the cognizance of the AC/S G-3, plans coordinates and executes the lethal and nonlethal fires required to support the MEF Commander's concept of operations. Force Fires is divided into three primary cells: Plans, Current Fires, and Liaison (See MCWP 3-42.1 for additional details).

e. Routine Support

1. Logistics. Support and Combat Service Support are under the staff of the AC/S G-4. The AC/S G-4 maintains constant representation in the current operations cell and provides direct representative and appropriate SMEs to the Future Plans and Future Operations Cells for logistics planning.

2. Personnel. Personnel issues are under the staff cognizance of the AC/S G-1, who maintains constant representation in the COC and provides direct representation to the Future Plans and Future Operations Cells for personnel planning.

3. Communications. Communications are under the staff cognizance of the AC/S G-6, who ensures communications capability for the MEF's C2 nodes and provides direct representation to the future Plans and Future Operations Cells for communications planning.

4. Information Systems. The AC/S G-6 provides technical support for information and C2 Systems. Information Systems Technology provides the basis for efficient and effective C2. C2 Systems fall under the staff cognizance of the functional manager they support (TCO-AC/S G-3, IAS-AC/S G-2, and LOG-AIS AC/S G-4).

f. As Required Cells.

The MEF maintains the flexibility to convene a variety of integrated staff cells that may be required. Membership of these as-required cells will be directed by the Chief of Staff, but they will normally be comprised of representatives of the Battlestaff and appropriate SMEs. Examples include: MEF Targeting Board (convened daily during wartime operations); MEF Real Estate Board (convened as required for terrain management).

4005. Liaison

a. Liaison is the contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action (see appendix D). Liaison helps reduce the fog of war. At the operational level of war liaison is one of the key functions critical to the MEF's success. Liaison is conducted to ensure mutual understanding and cooperation; unity of purpose and concentrated action; and tactical unity and mutual support to and by Higher-Adjacent-Supported (H-A-S) units. In the MEF, liaison teams are primarily provided by the I MACE Liaison Group.

b. MSCs. MSCs will normally provide LNOs to the Main CP. GCE LNO’s will consider the COC their primary place of duty, but will also be available for Future Operations and Future Plans Cells. FSSG and Wing liaison officers will normally co-locate with the MEF G-4 and Air Center, respectively, but will also maintain close coordination with Future Operations and Future Plans Cells.

c. Adjacent Units. MEF will normally provide liaison officers to adjacent corps-level headquarters. Liaison officers received from adjacent corps will normally be provided working spaces within the COC.

d. Higher Headquarters. MEF will provide LNOs to the next higher headquarters in the chain of command (Marine component, if present). If a Marine Component headquarters is present in theater, MEF will obtain concurrence prior to establishing liaison with other service components and/or theater headquarters.

4006. Summary

When a MEF deploys and fights it will probably be as part of a joint force. Missions will vary and a MEF must maintain the capability to respond across the entire spectrum of conflict. These capabilities must reflect an ability to function as a warfighter and a JTF nucleus headquarters or as a JTF component. In addition, during Small Scale Contingencies (SSC), it may have to serve as both MARFOR and warfighter simultaneously.

MEF deploys and is employed as a Marine Air Ground Task Force (MAGTF). MAGTF warfighting is associated with operational maneuver, traditionally coming from the sea and engaging in littoral warfare. MEF deployment, initial employment and subsequent operations may involve amphibious and Maritime Prepositioning Force (MPF) operations. In most cases, MEF forces will draw on seabased support and sustainment, again offering distinct MAGTF advantages to the force commander.

Because of the range of organic combat power, the MEF is capable of shaping the battlefield , closing with and engaging the enemy (conducting/controlling the close battle), sustaining the Force (conducting logistics/CSS operations), and protecting vital areas (conducting the rear battle).

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Chapter 5

The Staff

5001. Staff Organization. The size and composition of the staff of a MAGTF unit depends on the size and type of the unit. However, every Marine Corps staff has the same basic structure—a chief of staff or executive officer and three components: a general/executive staff, a special staff, and a personal staff. The number of personnel within each component varies at different command echelons. Staffs are not normally formed in units smaller than a battalion or squadron. Figure 5-1 depicts the basic structure of a Marine Corps staff. It should be noted that it is always the commander's prerogative to modify his staff structure as necessary to meet the demands of the situation. The basic staff structure provides the necessary flexibility to make such modifications. However, staffing goals, manning levels, and personnel assignments will be based on the basic staff structure of the unit as shown in current T/Os.

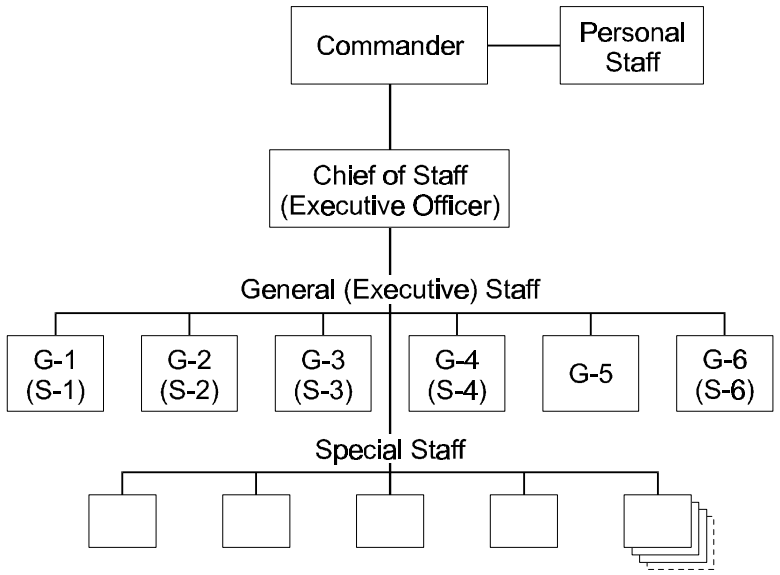

Figure 5-1. Staff Structure

a. Chief of Staff. The chief of staff is the commander's principal staff officer. The commander normally delegates authority to the chief of staff for the executive management of both general/executive and special staffs. The chief of staff directs staff tasks, conducts staff coordination, and ensures efficient and prompt staff response. Although the chief of staff oversees general/executive and special staff officers, he does not normally oversee the commander's personal staff officers. In units commanded by colonels and below, the personal staff is omitted, with the exception of the sergeant major, and the commander normally delegates authority to the executive officer to direct, coordinate, and supervise the staff.

b. Principle Staff. The commander's principal staff assistants comprise the general staff in units commanded by a general officer and the executive staff for all other units. Principal staff officers are responsible to the commanding officer/commanding general and are coordinated and directed by the executive officer/chief of staff. General/executive staff officers are responsible for a broad functional area and help the commander coordinate and supervise the execution of plans, operations, and activities in that area. To facilitate coordination, staff officers are assigned staff cognizance over special staff sections whose activities fall within their areas of primary interest.[1] (This should not preclude direct access of special staff officers to the chief of staff or the executive officer or direct liaison with other staff sections.) At the major command level, general staff officers are designated as the assistant chief of staff (AC/S) for their respective functional areas: AC/S, G-1, personnel; AC/S, G-2, intelligence; AC/S, G-3, operations and training; AC/S, G-4, logistics; AC/S, G-5, plans (MEF/MARFOR); and AC/S, G-6, communications and information systems.[2] At lower echelons, the executive staff is similarly organized. The executive staff officers are designated S-1, personnel officer; S-2, intelligence officer; S-3, operations officer; S-4, logistic officer; and S-6, communications and information systems officer. Collectively, through the chief of staff/executive officer, staff officers are accountable for the commander's entire field of responsibilities (except for any areas that the commander may elect to control personally). A commander may elect to modify the organization of the staff based on the situation—perhaps by creating additional staff sections beyond the G-6/S-6 and designating a special staff officer as a member of the staff. However, any such modification must be clearly defined in the command's SOPs and must be accomplished within available resources—personnel and equipment.

A staff officer's authority is limited to advising, planning, and coordinating actions within his field of interest. He also coordinates and integrates appropriate special staff officer activities. The commander might also give a staff officer added authority to act on specific matters within his field of interest. In such cases, staff officers have both staff authority in their own right and additional authority as delegated by the commanders. For example, the G-6 could be assigned overall responsibility for communications control activities throughout the entire MAGTF.

Staff officers are responsible for acquiring information and analyzing its implications to provide timely and accurate recommendations to the commander. In this process, staff officers must often request and receive information and recommendations from staff sections that are not under their cognizance. A clear definition of staff responsibilities is necessary to ensure coordination and to eliminate conflict. Unit SOPs or mission and functions manuals should be published to clearly delineate primary responsibilities and requirements for coordination.

[1] Staff cognizance is the term used to describe the broad coordinating responsibilities over special staff sections assigned to a general or executive staff officer in his area of primary interest. These responsibilities are intended to facilitate coordination within related areas of staff functioning and to ensure the systematic channeling of information and documents.

[2] The commander, assisted by the chief of staff, determines the number, type, and function of general staff sections. If desired, they may organize the general staff into sections beyond G-6 on the basis of staff requirements. Specifics on the organization, functions, and responsibilities of a particular command's general staff are normally delineated in that command's published orders, directives, and SOPs.

c. Special Staff. Special staff officers advise and assist the commander and other members of the staff in a particular military specialty such as supply or legal matters. As previously noted, in some cases a unit commander is dual-hatted as a special staff officer. For example, the artillery regimental commander is also the division fire support coordinator. The number of special staff officers and their duties vary at each level of command and by type of unit. The commander may adjust to unusual situations by omitting sections that are not required, by combining or adjusting responsibilities, and by creating additional special staff sections. Normally, the commander assigns responsibilities to specific general/executive staff officers for each of the special staff functions. Although the activities of a particular special staff section may not be integral to those of any particular general/executive staff section, there are usually areas of common interest and continuing relationships. This then forms the basis for assigning staff cognizance to a general/executive staff officer. For example, at division level the G-3 is normally responsible for and coordinates the activities of the fire support coordinator; the air officer; the command and control warfare (C2W) officer; the engineer officer; the naval gunfire officer; and the NBC defense officer. Some special staff officers routinely coordinate with more than one general/executive staff officer. For example, although provost marshal functions are operationally aligned under the chief of staff, the provost marshal office must also coordinate with the G-1, G-3, and G-4 for certain functions falling in their respective areas of interest.

d. Personal Staff. Personal staff members work under the commander's immediate control. The personal staff is normally composed of aides, a sergeant major, and personal secretaries. Below the major command level, the sergeant major is the only member of the personal staff. The sergeant major's duties are those specifically assigned by the commander and generally concern the discipline, welfare, conduct, morale, and leadership of enlisted personnel of the command.

5002. Staff Responsibilities. The role of the staff is to assist the commander in achieving his vision and executing his intent. This is accomplished through staff support for timely decisionmaking by the commander and timely execution of those decisions. Each member of the staff continually provides information to keep the commander abreast of the situation and to satisfy the CCIRs. Collectively, under the direction of the chief of staff, the staff must ensure the rapid, effective operation of the MCPP and execution of operations in both wartime and peacetime. All staff officers perform the following duties:

- Advise the commander with respect to their functional areas of interest
- Prepare, update, and maintain staff estimates
- Prepare plans and orders and monitor execution of decisions
- Process, analyze, and disseminate information
- Identify and analyze problems

- Conduct staff coordination—internal, vertical, and horizontal
- Train and supervise staff sections
- Exercise staff cognizance over assigned areas.

a. Chief of Staff or Executive Officer. The chief of staff (or executive officer to the extent authorized by the commanding officer) is responsible for directing, coordinating, supervising, and training the staff. The chief of staff frees the commander from routine managerial duties. The chief of staff is the primary conduit for the exchange of critical information and insight between the staff and the commander. It is critical that the chief of staff share a common vision of the goals and objectives of the organization with the commander. The chief of staff must fully understand the commander's intent in all situations and must help focus the staff. The chief of staff must understand the commander's personality, style, and instincts as they influence the effective execution of the commander's intentions. No staff member or subordinate unit commander should be denied full access to the commander; however, the chief of staff is responsible for monitoring the commander's schedule to avoid inefficient use of the commander's time. The chief of staff will establish the operational cycle of the organization and orchestrate briefings and meetings for the commander. Staff members should inform the chief of staff of any recommendations that they pass directly to the commander or of instructions that they receive directly from the commander. In units not authorized a chief of staff, the executive officer will provide staff supervision. The chief of staff performs the following functions:

- Keeps the commander informed of current and developing situations
- Receives the commander's decisions and ensures staff takes appropriate actions to implement those decisions
- Supervises the activities of the headquarters commandant and the staff
- Serves as chief information officer for the organization
- Monitors the currency, accuracy, and status of CCIRs
- Directs and supervises the planning and execution process (See appendix C for an overview and MCWP 5-1 for a complete discussion of the MCPP.)
- Monitors the development of plans, orders, and instructions
- Obtains the commander's approval of and then promulgates plans, orders, and instructions
- Monitors, with the assistance of the staff, the execution of plans, orders, and instructions

- Determines liaison exchange requirements and receives liaison teams
- Monitors staff discipline, morale, and combat readiness
- Organizes, plans, and supervises staff training
- Ensures proper coordination of staff activities internally, vertically (with higher headquarters and subordinate units), and horizontally (with adjacent units)
- Ensures proper staff support to subordinate commanders and staffs
- Exercises staff cognizance over the following special staff officers:
  - Chaplain
  - Comptroller
  - Headquarters commandant
  - Information management officer
  - Inspector
  - Provost marshal
  - Public affairs officer
  - Security manager
  - Staff judge advocate
  - Unit liaison officers.

b. Staff Secretary. The staff secretary is an administrative assistant to the chief of staff. In this capacity, the staff secretary is not a member of either the general or special staff, but the nature of his duties requires a close relationship with the officers of the general and special staffs. The staff secretary performs the following functions:

- Maintains the temporary office of record (the permanent office of record for the unit is maintained by the adjutant) for the commander, deputy or assistant commanders, and chief of staff

- Ensures that information, including organizational e-mail, routed to the chief of staff has been seen and acted on, if necessary, by all interested staff sections

- Directs and supervises the administrative functioning of the offices of the commander, deputy or assistant commanders, and chief of staff
- Receives personnel visiting the headquarters to confer with the commander, deputy or assistant commanders, and chief of staff

- Plans and supervises conferences chaired by the commander, deputy or assistant commanders, or chief of staff

- Monitors planning and execution of all official events and ceremonies involving the commander, deputy or assistant commanders, and chief of staff

· Acts as the informal point of contact for liaison officers.

c. Staff Officers. This section describes the specific responsibilities of each of the principle staff officers and identifies those special staff officers for whom the principle staff officers have primary staff responsibility. Executive staff description is noted in parentheses. The duties of the executive staff, except where noted, are similar. The specific duties listed for each staff officer are notional and may be modified as required by the commander. Further, the list of special staff officers is not intended to be all inclusive. Not every staff has all of the special staff officers listed. Billets and staff cognizance are subject to the commander's requirements and desires.

(1) Assistant Chief of Staff, G-1 (S-1), Personnel Officer. The G-1 is the principal staff officer for all matters concerning personnel management, personnel administration, and headquarters management. Every unit staff has a personnel officer. Specific responsibilities of the G-1 include the following:

- Personnel strength management

  | Maintains personnel strength status

  | Monitors and analyzes personnel strength data to estimate combat readiness

  | Coordinates with the G-3 to estimate casualties

  | Projects future manpower requirements
  | Develops plans to maintain organizational strength

- Personnel replacement management

  | Determines present and estimates future replacement requirements

- | Plans and coordinates the procurement and assignment of replacements
- | Allocates replacements in accordance with priorities established by the G-3
- | Supervises the receiving, processing, and delivery of replacements
- | Advises the commander and staff on matters concerning individual replacements and the replacement system

- Discipline, law, and order
  - | Promulgates orders for the enforcement of laws and regulations and the maintenance of good order and discipline
  - | Promulgates regulations for troop conduct and appearance
  - | Plans for the control and disposition of stragglers
  - | Prepares plans and orders pertaining to the administration of military justice, except court-martial orders
  - | Plans the location and supervises the operation of confinement facilities
  - | Supervises and coordinates relations with civilians with respect to law enforcement
- Prisoners of war
  - | Plans and coordinates the collection, safeguarding, administration, and evacuation of prisoners of war
  - | Plans, coordinates, and supervises prisoner-of-war employment
  - | Prepares plans, orders, and instructions relating to the treatment of prisoners of war
  - | Plans and supervises measures to ensure the discipline, indoctrination, and repatriation of prisoners of war
- Headquarters management
  - | Organizes and supervises administrative support activities relating to the operation of the headquarters

- Determines the internal arrangement of the headquarters in conjunction with the headquarters commandant and the communications and information systems officer
- Allocates space within the headquarters
- Assigns billeting areas

- Casualty management
  - Conducts casualty reporting and casualty mail coordination
  - Conducts next-of-kin notification and assistance
  - Plans, coordinates, and supervises the conduct of ceremonies and funerals
  - Plans and coordinates policies for personnel determined unfit for combat duty for medical reasons

- Personnel management
  - Plans and coordinates personnel procurement, retention and reenlistment, classification, reclassification, assignment, promotion, and reduction
  - Supervises personnel management procedures relating to transfer, retirement, separation, and rotation
  - Conducts staff inspections to ascertain the effectiveness of personnel administration
  - Monitors the deployability of all personnel
  - Maintains personnel records

- Morale and personnel services
  - Maintains a current appraisal of morale and influencing factors
  - Determines requirements for leave and liberty and for rest and recreation facilities
  - Plans, coordinates, and supervises the unit award program
  - Plans, coordinates, and supervises religious activities, command information, special services, exchange facilities, postal services, legal assistance, family support services, and other quality-of-life programs

- Staff cognizance over the adjutant, personnel officer, and legal officer
- OPLANs/OPORDs
  - | Prepares Annex E (Personnel) to the OPLAN/OPORD
  - | Provides input to the logistic estimate and to the logistic annex of the OPLAN/OPORD.

Staff Cognizance of G-1 Officer

Adjutant. In major commands the adjutant operates under the staff cognizance of the G-1 and has responsibility for office management. At regiment and below, the S-1 will be dual-hatted as the adjutant and, in the S-1 role, will have staff cognizance over personnel administration matters as well as office management. The adjutant performs the following functions:

- w Supervises the flow of paperwork to ensure the correct staffing of all documents
- w Routes messages and monitors those requiring action
- w Establishes and maintains a report control system
- w Manages line-of-duty investigations, congressional inquiries, and special correspondence
- w Coordinates and arranges nontactical boards, meetings, and conferences
- w Prepares duty rosters, read boards, and welcome aboard letters/packages for the command
- w Plans, coordinates, and supervises the conduct of ceremonies and funerals
- w Promulgates SOPs and directives for general administration within the command and supervises the command award program
- w Maintains the office of record for the headquarters
- w Plans and coordinates the movement of documents and reports via mail, messenger, electronic means, and external guard mail
- w Performs other administrative services as assigned to relieve other staff sections of routine administrative responsibilities.

CAREER PLANNING OFFICER

The career planning officer performs the general duties of a special staff officer, under the staff cognizance of the G-1, with respect to career

planning matters. His staff responsibilities include:

wDeveloping and coordinating an officer retention program.

wMonitoring the reenlistment program of staff noncommissioned officers.

wDeveloping and coordinating a first term reenlistment program

wMonitoring promotion policies, retirement policies, assignments, active duty/dependent entitlements, academic/professional education programs, and resignation/retirement requests.

wInterviewing, training, and recommending assignments for Marines with a secondary and tertiary Military Occupational Specialty (MOS) in career planning.

wProviding informal assistance and services to all Marines on career matters to include a direct communication link to Headquarters Marine Corps.

wConducting formal and informal inspections in the area of career planning.

wKeeping the commander informed of career planning matters.

DISBURSING OFFICER

The disbursing officer performs the general duties of a special staff officer under the staff cognizance of the comptroller or, if a comptroller is not authorized, the G-1, with respect to the safekeeping of all public money collected or otherwise placed in his custody. His staff responsibilities include:

wDisbursing or transferring of funds as may be directed.

wPerforming duties as fiscal agent of the Marine Corps imposed by law or regulation .

wDepositing public funds not required for current expenditures.

wMaintaining detailed records of all transactions and submitting periodic financial reports.

POSTAL OFFICER

The postal officer performs the general duties of a special staff officer under the staff cognizance of the G-1, with respect to postal matters. His staff responsibilities include:

wDirecting, supervising, and coordinating postal operations and services.

wSupervising the operation of post offices, postal directories, and organizational mailrooms.

wConducting inspections and audits as required by current regulations.

wAssuming custody of, and accounting for, postal funds and equipment assigned to the command.

wPreparing postal reports, as required.

SPECIAL SERVICES OFFICER

The special services officer performs the general duties'of a special staff officer, under the staff cognizance of the G-1, with respect to special services matters. His staff responsibilities include:

wSupervising the command's recreation and athletic programs.

w. Advising the commander in matters regarding the technical and logistical support of recreational and athletic programs.

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wCoordinating special services matters with special services agencies of other Services.

w Supervising appropriated and nonappropriated funds for special services matters through preparation of budget, maintenance of accounting records, preparation of financial reports, and collection of statistical data.

w Planning, coordinating, and supervising the acquisition, storage, security issue, recovery, and redistribution of all special services supplies and equipment.

w Supervising administrative matters pertaining to acquisition, maintenance, and operation of special services facilities including libraries and amateur radio stations.

w Furnishing advice and information relative to special services procedures including property accounting, property control, and property responsibility.

w Conducting internal audits of required accounting procedures and inspections of special services facilities and equipments.

w Planning, coordinating, and supervising education and troop information programs.

Personnel Officer. The personnel officer is responsible for personnel administration. The personnel officer operates under the staff cognizance of the G-1/S-1. The personnel officer performs the following functions:

- Plans and supervises the procurement, classification, assignment, transfer, and replacement of the unit's personnel

- Develops SOPs and directives for personnel policy within the command

w Analyzes current and projected strength data to determine personnel requirements

w Assists the G-1/S-1 in preparing and maintaining the personnel estimate

w Maintains visibility of personnel status

w Supervises casualty reporting and next-of-kin notification and assistance

- Coordinates personnel matters with other commands

- Submits correct and timely input into the Joint Uniform Military Pay System/Manpower Management System (JUMPS/MMS) and takes corrective actions required by reports generated by JUMPS/MMS.

(1) Assistant Chief of Staff, G-2. The AC/S G-2 has staff responsibility for intelligence and intelligence operations. The commander relies on the intelligence officer to provide the necessary information on the weather, terrain, and enemy capabilities, status, and intentions. Through the intelligence operations plan and supporting intelligence, counterintelligence and reconnaissance and surveillance (R&S) plans, the MEF AC/S G-2 validates and plans IRs, coordinates intelligence priorities, integrates collection, production and dissemination activities, allocates resources, assigns specific intelligence and reconnaissance missions to subordinate elements, and supervises the overall intelligence, counterintelligence and reconnaissance efforts. Specific responsibilities include:

w Developing and answering outstanding MEF and subordinate units' PIRs and IRs by planning, directing, integrating, and supervising organic multi-discipline MEF and supporting intelligence operations.

w Preparing appropriate intelligence, counterintelligence and reconnaissance plans and orders for the MEF and reviewing and coordinating the all-source intelligence counterintelligence and reconnaissance plans of JTFs, theaters, and other organizations.

w Submitting and coordinating all-source collection, production, and dissemination requirements beyond the capability of the MEF to satisfy to higher headquarters for JTF, theater, or national intelligence support.

w Ensuring intelligence information is rapidly processed, analyzed, and incorporated where appropriate in all-source intelligence products, and rapidly disseminated to all MEF and external units requiring these.

w Evaluating JTF, theater, and national all-source intelligence support and adjusting stated IRs, if necessary.

w Identifying and correcting deficiencies in intelligence, counterintelligence and reconnaissance personnel and equipment resources.

w Incorporating exercise intelligence in training exercises in order to improve MEF individual, collective, and unit readiness.

w Facilitating understanding and use of intelligence in support of the planning and execution of MEF operations.

(2) G-2 Operations Officer. The G-2 operations officer, under the direction of the MEF AC/S G-2, has primary responsibility for intelligence support to the CG and the remainder of the MEF CE in support of current operations and future operations. Specific responsibilties include :

w Coordinating and providing intelligence support to the CG, the G-3 operations section, and the rest of the MEF CE's battlestaff.

w Serving as the G-2 representative to the MEF CE crisis action team (CAT).

w Coordinating, providing and supervising intelligence support to the MEF CE current operations center (COC), future operations center (FOC), and force fires.

w Planning, directing and supervising the *Red Cell*.

w Providing recommendations on PIR and IR validation, prioritization, and taskings to the AC/S G-2 and the ISC.

w Coordinating and supervising the transition of intelligence planning and operations from G-2 plans to G-2 future operations, and from G-2 future operations to G-2 current operations, in order to effectively support the MEF's "single battle" transition process.

w Planning, directing and supervising MEF liaison teams to external commands (e.g., the JTF and joint functional components headquarters) and intelligence organizations.

w Coordinating with the ISC and MEF MSCs' G-2 operations officers to ensure unity of effort of MEF intelligence operations.

w Provide intelligence input and other support to MEF warning and fragmentary orders and to operations related reporting (e.g., periodic situation reports).

w Coordinating intelligence training for the MEF G-2 section and providing G-2 oversight for and integration of the entire MEF intelligence training program.

w Other intelligence support and tasks as directed by the AC/S G-2.

(3) G-2 Plans Officer. The G-2 plans officer, under the direction of the MEF AC/S G-2, has primary responsibility for intelligence support to the MEF CE's future plans cell. Specific responsibilities include :

w Planning the MEF concept of intelligence operations for approved by the AC/S G-2 and subsequent implementation by the ISC based upon the mission, threat, commander's intent, guidance, and concept of operations.

w Leading, coordinating and providing intelligence support to MEF G-5 future plans section.

w Planning and coordinating intelligence support requirements for and the deployment of intelligence elements and resources into the AO.

w Providing recommendations on PIR and IR validation, prioritization, and taskings to the AC/S G-2 and the ISC.

w Coordinating, in conjunction with the ISC, G-2 development of Annex B (Intelligence) and Annex M (Geospatial Information and Services) to MEF operations plans (OPLAN).

w Keeping the G-2 section, other CE staff sections, intelligence liaison personnel, augmentees, and others as appropriate apprised of MEF intelligence planning actions and requirements.

w Identifying requirements and providing recommendations to the G-2 operations officer for MEF intelligence liaison teams to external commands (e.g., the JTF or other components' headquarters) and intelligence agencies.

w Coordinating and developing policies for MEF intelligence, CI and reconnaissance operations.

w Planning, directing and supervising the MEF G-2's imagery and mapping, CI/HUMINT, SIGINT, and weather sections.

w Other intelligence support and tasks as directed by the AC/S G-2.

(4) Intelligence Battalion Commander/Intelligence Support Coordinator. The intelligence battalion commander is responsible for planning and directing, collecting, processing, producing and disseminating intelligence, and providing counterintelligence support to the Marine Expeditionary Force (MEF), MEF MSCs, subordinate MAGTFs, and other commands as directed.

w **Garrison.** In garrison the principal task of the intel bn commander is to organize, train and equip detachments that support MAGTFs or other designated commands to execute integrated collection, intelligence analysis, production and dissemination of intelligence products.

w **Actual Operations.** During operations the intel bn commander is dual-hatted as the ISC[3], serving as such under the direct staff cognizance of the MEF AC/S G-2. The intel bn's S-3 section along with the operations center element of the MEF G-2 form the core of the ISC support effort, with planning, direction and C2 conducted within the IOC's support cell. As the ISC he is responsible to the MEF AC/S G-2 for the overall planning and execution of MEF all-source intelligence operations. Specific responsibilities of the ISC during actual operations include:

x Implementing the concept of intelligence operations developed by the G-2 plans officer and approved by the AC/S G-2.

x Establishing and supervising operation of the MEF intelligence operations center (IOC), which includes the support cell, the surveillance and reconnaissance cell (SARC), and the P&A cell. Generally the IOC will be co-located with the MEF CE's main command post.

x Developing, consolidating, validating, and prioritizing[4] recommended PIRs and IRs to support MAGTF planning and operations.

x Planning, developing, integrating, and coordinating MEF intelligence collection, production, and dissemination plans, to include the effective organic and external integration and employment and staff cognizance of MEF signals intelligence (SIGINT), counterintelligence (CI), human resources intelligence (HUMINT), geographic intelligence (GEOINT), imagery intelligence (IMINT), ground remote sensors, ground reconnaissance, and tactical air reconnaissance intelligence collections, production, and dissemination operations.

x Developing, in conjunction with the G-2 plans officer and G-2 operations officer, and completing Annex B (Intelligence) and Annex M (Geospatial Information and Services) to MEF operations orders (OPORD).

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[3] During garrison operations, many of the tasks listed here are the responsibility of the G-2 operations officer.

[4] The ISC is tasked to perform PIR and IR validation and prioritization ***only*** during actual operations when the IOC is activated. During routine peacetime operations the PIR/IR validation and prioritization tasks are the responsibility of the MEF CE's G-2 operations officer.

x Planning, developing, integrating, and coordinating intelligence and CI support to the commander's estimate, situation development, indications and warning, force protection, targeting, and combat assessment.

x Managing and fusing the threat (or *red*) COP/CTP inputs from subordinate units and external commands and intelligence agencies into the MEF CE's threat COP/CTP.

x Providing intelligence support to the MEF CE G-2 section and the MSCs.

x Preparing the intelligence and CI estimates to support G-2 plans.

x Planning, developing, and coordinating intelligence communications and information systems architecture, to include its integration with and support of MEF IMINT and other intelligence and reconnaissance requirements.

x Coordinating and integrating all-source intelligence operations with other service components, JTF joint intelligence support element (JISE), theater joint intelligence center (JIC) or joint analysis center (JAC), and national intelligence agencies and operations to include all aspects of intelligence reachback support.

x Assisting with the evaluation and improvement of MEF all-source intelligence, counterintelligence, and reconnaissance operations.

x Other intelligence support and tasks as directed by the AC/S G-2.

(5) Collection Management/Dissemination Officer (CMDO). The CMDO is sourced from the intel bn's S-3 section and is key subordinate to the intel bn commander/ISC during operations. The CMDO is responsible for formulating detailed intelligence collection requirements (ICRs) and intelligence dissemination requirements (IDR) and tasking and coordinating internal and external operations to satisfy these. The CMDO receives validated PIRs and IRs and direction from the ISC, and then plans and manages the best methods to employ organic and supporting collection and dissemination resources through the intelligence collection and dissemination plans (tabs to Appendix 16, *Intelligence Operations Plan*, to Annex B. The CMDO is also responsible for validating and forwarding national and theater intelligence collecction requests from the Marine Expeditionary Force (MEF) and MSCs typically using appropriate intelligence tools and TTP. He also is responsible for coordinating intelligence CIS requirements and maintaining awareness of available CIS connectivity throughout the MAGTF and with key external organizations. During operations the CMDO works within the support cell (see figure 2 above). In coordination with the P&A cell OIC, the SARC OIC, G-2 operations officer, intelligence/reconnaissance COs/OICs, and the MEF G-6, the CMDO is responsible to the ISC for the following tasks:

w Determination and coordination of the collection effort of PIRs/IRs that may be collected via intelligence, counterintelligence and reconnaissance resources.

w Determination of PIRs/IRs and preparation of requests for intelligence (RFI) that are beyond organic capabilities and preparing submissions to higher headquarters and external agencies for support.

w Recommending dissemination priorities, development of intelligence reporting criteria, and advising on and selecting dissemination means.

w Developing and coordinating all-source intelligence collection plans, coordinating and integrating these with MEF, other components, JTF, theater, and national intelligence production operations.

w Developing and coordinating all-source intelligence dissemination plans and supporting architectures for both voice and data networked communications, and coordinating and integrating these with MEF, other components, JTF, theater, and national intelligence CIS and dissemination operations.

w Monitoring the flow of intelligence throughout the MEF and ensuring that it is delivered to intended recipients in a timely fashion and satisfactorily meets their needs.

w Evaluating the effectiveness of MEF and supporting intelligence collection and dissemination operations.

(6) Surveillance and Reconnaissance Cell (SARC) OIC. The SARC OIC is also an immediate subordinate of the ISC and is responsible for supervising the execution of the integrated organic, attached, and direct support intelligence collection and reconnaissance operations. The SARC OIC is responsible to the ISC for accomplishing the following specific responsibilities:

w Coordinating, monitoring, and maintaining the status of all ongoing intelligence, counterintelligence, and reconnaissance collection operations. This includes:

x Missions, tasked ICRs, and reporting criteria for all collection missions.

x Locations and times for all pertinent fire support control measures.

x Primary and alternate CIS plans for both routine and time-sensitive requirements, both for collectors as well as between the collectors or the SARC and key MEF CE and MSC C2 nodes, in order to support ongoing C2 of collection operations and dissemination of acquired data and intelligence to those needing it via the most expeditious means.

w Conducting detailed intelligence collection planning and coordination with the MSCs and intelligence, counterintelligence and reconnaissance organizations' planners, with emphasis on ensuring understanding of the collection plan and specified intelligence reporting criteria.

w Ensuring other MAGTF C2 nodes (e.g., the current operations center, force fires, etc.) are apprised of ongoing intelligence, counterintelligence and reconnaissance operations.

w Receiving routine and time-sensitive intelligence reports from deployed collection elements; cross-cueing among intelligence collectors, as appropriate; and the rapid dissemination of intelligence reports to MAGTF C2 nodes and others in accordance with standing PIRs/IRs, intelligence reporting criteria and dissemination plan, and the current tactical situation.

(7) Production and Analysis Cell OIC. The P&A cell OIC is the third principal subordinate to the ISC, with primary responsibility for managing and supervising the MEF's all-source intelligence processing and production efforts . Key responsibilities include:

w Planning, directing and managing operations of the all-source fusion platoon (to include the fusion, order of battle, IPB, and target intelligence/battle damage assessment teams), the topographic platoon, the imagery intelligence platoon (IIP), the direct support teams (DST), and other analysis and production elements as directed.

w Coordinating and integrating P&A cell operations, estimates and products with the MEF G-2 section's G-2 operations branch and its *Red Cell* operations and estimates.

w Maintaining all-source automated intelligence databases, files, workbooks, country studies and other intelligence studies.

w Planning and maintaining imagery, mapping and topographic resources and other intelligence references.

w Administering, integrating, operating, and maintaining intelligence processing and production systems, both unclassified general service (GENSER) and SCI information systems (e.g., the intelligence analysis system, the image product library IPL, etc.).

w Analyzing and fusing intelligence and other information into tailored all-source intelligence products to satisfy all supported commanders' stated or anticipated PIRs and IRs.

w Developing and maintaining current and future intelligence situational, threat, and environmental assessments and target intelligence based upon all-source analysis, interpretation, and integration.

w Managing and fusing the threat (or *red*) COP/CTP inputs from subordinate units and external commands and intelligence agencies into the MEF CE's threat COP/CTP.

3) Assistant Chief of Staff, G-3/(S-3), Operations Officer. The G-3 is the principal staff officer for all matters concerning training, plans and operations, and organization.[5] Every unit staff has an operations officer. Specific responsibilities of the G-3 include the following:

- Training
  - | Assists the commander in developing the unit's mission-essential task list (METL)
  - | Identifies training requirements based on the unit's METL and training status
  - | Determines requirements for and allocates training aids, publications, facilities, and ammunition
  - | Organizes and conducts internal schools and obtains and allocates quotas for external schools
  - | Plans and supervises the execution of training
  - | Maintains training records and prepares training reports
  - | Plans and conducts training inspections, tests, and evaluations
- Operations
  - | Supervises the activities of the current operations, future operations, and future plans sections[6]
  - | Plans, coordinates, and supervises the tactical movement and employment of units
  - | Plans, coordinates, directs, and monitors fire support
  - | Integrates fire and maneuver
  - | Monitors the battle
  - | Operates the COC
  - | Determines the general location of the command post

[5] At the MEF/MARFOR level the G-3 shares responsibility for planning with the AC/S, G-5, plans officer.

[6] At the MEF/MARFOR level, the G-5 is responsible for the future plans section.

- | Designates the general location for bivouacking, quartering, and staging units involved in tactical operations
- | Recommends intelligence requirements to the G-2
- | Recommends missions for reconnaissance units in coordination with the G-2
- | Integrates and displays the common operating picture
- | Determines priorities for allocation of personnel, weapons, equipment, and ammunition
- | Estimates personnel and CSS requirements in coordination with the G-1 and G-4

- Plans
  - | Develops, authenticates, publishes, and distributes OPLANs, OPORDs, fragmentary orders, and warning orders
  - | Assists the chief of staff in directing the planning process
  - | Prepares or reviews supporting plans such as fire support, tactical deception, combat engineer operations, MP operations, and psychological operations (PSYOP)
  - | Reviews OPLANs and OPORDs of subordinate units
  - | Plans, coordinates, and supervises exercises
  - | Plans fire support
  - | Ensures that combat support requirements are identified and satisfied
  - | Plans, coordinates, and supervises tactical deception activities
  - | Plans, coordinates, and supervises civil affairs activities
  - | Plans, coordinates, and supervises rear area security
  - | Plans for operational security and force protection
  - | Plans and coordinates electronic warfare operations and activities in coordination with the G-2 and G-6
  - | Conducts crisis action planning

- | Conducts long-range contingency planning[7]
- | Prepares operational and historical reports

- Organization
  - | Develops task organization
  - | Assigns missions to subordinate elements
  - | Develops and maintains the troop list
  - | Assigns, attaches, and detaches units
  - | Determines priorities for replacements, including unit replacements, in coordination with the G-1
  - | Receives, orients, trains, and reorganizes units
  - | Fields new weapons and equipment
  - | Analyzes the need for and documents any recommended changes to T/Os and/or tables of equipment (T/Es)
  - | Overseas the activation and deactivation of units
  - | Organizes and equips units
- Staff cognizance over the following:
  - | Air officer
  - | Civil affairs officer
  - | C2W Officer
  - | Engineer officer
  - | Fire support coordinator
  - | Naval gunfire officer
  - | NBC defense officer
- OPLANs and OPORDs

[7] At the MEF/MARFOR level, the G-5 has primary responsibility for long-range contingency planning .

- Exercises overall staff responsibility for the preparation of OPLANs and OPORDs
- Exercises staff cognizance for Annexes A (Task Organization), C (Operations), J (Command Relationships), L (Operations Security), M (Air Operations), and R (Amphibious Operations) to the OPLAN/OPORD.

Staff Cognizance of G-3 Officer

Air Officer. The air officer has staff responsibility for the coordination of air support. The air officer operates under the staff cognizance of the G-3. The air officer does the following:

- Serves as a member of the FSCC or FFCC
- Determines air support requirements
- Prepares, consolidates, coordinates, and prioritizes air support requests
- Assists in the integration and coordination of offensive air support with other supporting fires
- Coordinates with higher headquarters on airspace coordination measures to protect supporting aircraft.

Target Information Officer (TIO). The TIO is the head of the target information section (TIS) in the division FSCC. His duties require him to work closely with the TGTINTELO in the G-2 section. There are no TIOs at regiment and battalion FSCCs. The FSC at these echelons may have to perform some TIO duties themselves or delegate some to the supporting arms representatives.

He is responsible for targeting and his duties include:

- Receive reports on potential targets from G-2/ S-2, subordinate elements, artillery units, and other FSCCs.
- Keep the FSC and other supporting arms representatives informed of the status of targets.
- Keep appropriate target files.
- Perform preliminary weaponeering. (A preliminary analysis of the target to determine what, if any, weapons will be effective against the target and the degree of damage it is possible to achieve with various types and quantities of ammunition.)

Civil Affairs Officer. The civil affairs officer has the responsibility to enhance the relationship between military forces and the civilian population in the area of operations to ensure the

success of the military operation. The civil affairs officer is normally the commanding officer of the CAG, detachment commander of the civil affairs detachment, or team leader of a civil affairs team. Currently, all Marine Corps civil affairs units reside in the Reserve establishment. School-trained personnel in the active force may provide a limited civil affairs capability when civil affairs assets resident in the Reserve establishment are not available. In the conduct of joint operations, other-Service augmentation of the Marine Corps civil affairs capability may be an option. The civil affairs officer normally operates under the staff cognizance of the G-3. However, in some situations—such as the conduct of humanitarian operations—it may be more effective to authorize the civil affairs officer to act as a member of the general/executive staff. The civil affairs officer performs the following functions:

- Advises the commander of the potential civilian impact on military operations
- Advises the commander concerning the potential impact of military operations on the civilian population
- Identifies civil affairs goals and objectives to support the mission
- Develops concepts and plans to accomplish civil affairs goals and objectives
- Prepares Annex G (Civil Affairs) to the OPLAN/OPORD
- Coordinates with the staff judge advocate on the rules of engagement as applied to civilians in the area of operations; recommends changes to the commander as necessary to ensure that, to the extent that the tactical situation permits, civilian personal, cultural, and property rights are safeguarded
- Coordinates with the comptroller and the staff judge advocate to facilitate the identification, recording, and payment of claims for compensation for death, personal injury, or property damage
- Plans and implements, in coordination with the provost marshal and staff judge advocate, necessary emergency population control measures to support rear area security, maintain law and order, and minimize civilian interference with combat operations (Such measures may include relocations, curfews, and movement restrictions.)
- Provides the G-2 with information gained from civilians in the area of operations
- Establishes and operates a CMOC to maintain liaison with and coordinate the operations of other U.S. government agencies, host nation civil and military authorities, and nongovernmental organizations in the area of operations

- Plans, in coordination with the public affairs officer, public affairs and community relations programs supporting civil affairs goals and objectives and focused on gaining and maintaining public understanding, goodwill, and support

- Assists the G-4 and the medical officer in identifying the basic needs of the civilian population in terms of emergency food, shelter, and health care and developing programs to satisfy those needs

- Assists the G-4 in identifying local goods, services, and facilities available to support military operations

- Advises the commander on the employment of military units in support of civil affairs programs.

Future Operations Officer

(1) The Future Operations Officer, under the direction of the AC/S G-3, iconducts detailed planning for MSC's next mission change. The future operations officer focuses on new frag order/change to the mission for the MSC's elements and forms and leads the integrated planning effort. His tasks include:

- Develops branch plans and refines sequels

- Coordinates with G-5 for US Government (USG), CINC and Service support

- Develops potential Commander's Critical Information requirements (CCIRs), Priority Information Requirements (PIRS)

- Plans to maintain the initiative and avoid unnecessary operational pauses

- Interacts with Force Fires Coordinator and MEF Target Board to shape the battlespace for the next MSC mission change

- Drafts initial OPORD or frag order
- Transitions the plan to Current Ops for execution. (Key is to maximize time for MSCs to react to the frag order).

- Develops briefing slides and decision aids as required

Current Operations Officer

The Current Operations Officer coordinates the current battle and ensures adherence to the MEF Commander's Intent. The Current Operations Officers' tasks include:

- Prior to deployment, operates MOC.
- Provides nucleus of "remain behind" element during force deployment
- Executes plan
- Monitors close battle
- Analyzes battlespace events and information
- Interprets battlespace events
- Assesses battlespace events
- Assesses CCIR collection
- Coordinates with Force Fires Coordination Center (FFCC) and FutOps to adjust current plan
- Provides basis for command decisions
- Establishes and operates the Operations Synchronization Center (OSC)
- Coordinates and monitors execution of force deployment(s)
- Transmits orders and tactical decisions
- Responsible for execution of the OPORD
- Develops frago(s) from FutOps input for the current OPORD necessary to execute the current battle.
- Establishes information requirements/criteria to facilitate rapid decision-making.

Command and Control Warfare Officer. The C2W officer is responsible for coordinating electronic warfare operations under the staff cognizance of the G-3. A C2W officer is on MEF, division, and wing staffs. The C2W officer performs the following functions:

- Advises the commander on the employment of electronic warfare assets to support the commander's concept of operations

- Integrates the electronic warfare plan into OPLANs and OPORDs and prepares electronic warfare appendices to those plans and orders

- Coordinates, prepares, and maintains the electronic warfare target list, electronic attack taskings, and electronic attack requests

- Coordinates and supervises the electronic warfare operations of the command, with particular emphasis on coordination of electronic warfare operations with other fires and prevention of interference to friendly communications and information systems by coordinating with the G-6 to deconflict frequencies

- Establishes the EWCC and maintains liaison with electronic warfare agencies of other commands

- Participates in targeting meetings.

Fire Support Coordinator. The fire support coordinator (force fires coordinator at the MAGTF level) is responsible for the planning, coordination, integration, direction, and monitoring of organic and supporting lethal and nonlethal fires. The fire support coordinator operates under the staff cognizance of the G-3/S-3. All ground combat maneuver units, division through battalion, include a fire support coordinator, and a fire support coordinator will be assigned to the RAOC. The fire support coordinator performs the following functions:

- Supervises the operation of the FSCC (FFCC at the MAGTF level), including organizing and training personnel

- Develops, in coordination with the G-3/S-3, a concept of fires and targeting objectives to support the operation

- Determines fire support requirements and prepares fire support plans

- Coordinates and directs the targeting process and supervises the collection and dissemination of target data.

- Plans, coordinates, integrates, directs, and monitors organic and supporting fires

- Coordinates the activities of the air officer, naval gunfire officer, C2W officer, and the target information officer
- Plans, in coordination with the C2W officer, the use of electronic warfare assets in support of the overall fire support effort

- Institutes and coordinates the use of fire support coordination measures as required

- Maintains information on the status of fire support systems, including ammunition on hand, and target acquisition assets.

Naval Gunfire Officer. The naval gunfire officer is responsible for coordinating, planning, integrating, and monitoring naval gunfire support. The naval gunfire officer operates under the staff cognizance of the G-3/S-3. The naval gunfire officer performs the following functions:

- Serves as a member of the FSCC/FFCC
- Determines requirements for naval gunfire support in support of the concept of fires and consolidates and reviews requirements of subordinate units
- Prepares requests for naval gunfire support
- Assists in the coordination and integration of naval gunfire with other supporting fires
- Ensures that timely information is furnished to naval commanders regarding supported units
- Maintains information on the status of the naval gunfire assets and ammunition supply as they affect supported units
- Plans and supervises the training of naval gunfire personnel.

Nuclear, Biological, and Chemical Defense Officer. The NBC defense officer is responsible for planning and coordinating all activities relating to NBC defense. The NBC defense officer operates under the staff cognizance of the G-3/S-3. The NBC defense officer performs the following functions:

- Supervises the detection, identification, evaluation, and monitoring of NBC agents and the employment of NBC reconnaissance, surveillance, and detection systems
- Supervises the decontamination of personnel, equipment, supplies, facilities, and areas
- Determines, in coordination with the G-2, the enemy's capability to employ weapons of mass destruction
- Assesses weather and terrain data to determine whether environmental factors are favorable to enemy employment of weapons of mass destruction
- Provides technical advice and recommendations on adopting mission-oriented protective posture (MOPP)
- Makes assessments of the impact of potential or actual enemy use of weapons of mass destruction on the ability of the unit to accomplish the mission

- Assists the surgeon or medical officer in establishing systems for determining personnel exposure to NBC agents

- Prepares NBC messages and situation reports.

PSYCHOLOGICAL OPERATIONS OFFICER

The psychological operations officer performs the general duties of a special staff officer, under the staff cognizance of the G-3, with respect to psychological operations. His staff responsibilities include:

wAdvising the commander on matters pertaining to psychological operations.

wPreparing psychological operations plans and estimates.

wCoordinating psychological operations activities with other military and civilian agencies.

wAnalyzing target audiences and evaluating the effects of psychological operations.

wSupervising the conduct of psychological campaigns including the preparation, production, distribution, and dissemination of psychological operations materials and messages.

PHOTOGRAPHIC OFFICER

The photographic officer performs the general duties of a special staff officer, under the staff cognizance of the G-3, with respect to the utilization of photography to record operations, training, and other activities for use in future operations; training; study; planning; and historical, documentation, and public information. His staff responsibilities include:

wAdvising the commander on capabilities and value of photography, the capabilities of'photographic personnel assigned and the material readiness of the equipment.

wPreparing appropriate instructions and notices to ensure operational readiness of the photographic unit.

wPreparing the photographic annex to operation orders.

wInitiating recommendations for changes to photographic personnel and equipment allowances to enhance operational readiness.

wInitiating recommendations relative to the procurement and training of personnel to improve both the responsiveness of the schools command and the structure of the Marine photographic establishment.

w Maintaining close liaison with intelligence, historical, and public relations officers.

wForwarding photography in accordance with current directives.

w Planning, coordinating, and supervising the operation of the command photographic facility in compliance with current directives.

w Planning, administering, and directing the utilization of all instructional television (ITV) equipment assigned to his photographic facility.

wPreparing and forwarding, via the commander the annual photographic report.

AIR CONTROL/ANTIAIR WARFARE OFFICER

The air control/antiair warfare officer performs the general duties of a special staff officer, under the cognizance of the assistant chief of staff, G-3, with respect to tactical air control (TAC) and antiair warfare (AAW) matters. His staff responsibilities include:

wAdvising on matters pertaining to coordination and integration of electronics countermeasures and communications-electronics deception in coordination with the wing electronics warfare officer and the wing communications-electronics officer.

wCoordinating all means of air defense with naval commands concerned with air defense control agencies.

wRecommending the tactical employment of air and surface antiair warfare means.

wAssisting in technical inspections of air defense systems

w Planning and coordinating with naval commands and air defense control agencies concerned with surface-to-air (SAM) missile matters.

ASSAULT AMPHIBIAN OFFICER

The assault amphibian officer performs the general duties of a special staff officer, under the staff cognizance of the G-3, with respect to assault amphibian matters. His staff responsibilities include:

w Advising on assignment of assault amphibian vehicles to various classes of shipping based on the ship's carrying capacity; location of personnel, equipment, and supplies to be lifted; and employment ashore.

w Advising on optimum distances from assault amphibious vehicle standpoint from: (LOD) .

| Amphibious vehicle launching circle to the line of departure

| LOD to beach.

w Advising on techniques for discharging assault troops on the beach, to include use of assault amphibious vehicles in projected mechanized operations ashore,

w Advising on employment of assault amphibious vehicles in transfer operations and the overall conduct of such operations, if contemplated.

w Advising on optimum assault amphibious vehicle formations and timing of assault amphibious vehicle waves.

w Assisting in planning for employment of assault amphibious vehicles as mobile or floating dumps.

w Advising on cargo carrying capacity of assault amphibious vehicles, economy of such operations, and employment of a transfer line, if required.

w Assisting the landing support officer in planning for combat service support employment of assault amphibian units.

w Coordinating all aspects of assault amphibious vehicle employment with naval control groups and ships involved with assault amphibious vehicle operations.

w Advising on maintenance requirements for assault amphibian units, to include location of maintenance areas ashore, assignment of maintenance personnel to higher echelon maintenance units, phasing ashore spare parts, and probable breakdown rates.

w Advising on requirement of assault amphibian units for fuel, oil, and other lubricants during operations ashore. Coordination with G-4 on planning for assault amphibian unit assistance in fuel resupply by use of tanker trucks organic to the unit and fuel-ferrying assemblies transported in assault amphibious vehicles.

w Assisting in planning for employment of LVTC-7 vehicles as command posts, observation posts, etc.

w Assisting in planning for employment of assault amphibious vehicles in special operations such as river crossings, jungle operations, and mountain operations.

w Advising on employment of signals, marker devices, etc., for assault amphibious vehicle control during night landings and operations conducted under cover of darkness.

w Advising on safety requirements when personnel are to be erbarked in assault amphibious vehicles and recommending training programs for units to be embarked.

ARTILLERY OFFICER

The artillery Officer performs the general duties of a special staff officer, under the staff cognizance of the G-3, with respect to artillery matters. His staff responsibilities include:

w Coordinating and supervising field artillery observation, surveyt communications, liaisons, and supply of meteorological data.

wCoordinating the fires and movement of artillery units.

w Assisting in the collection and dissemination of enemy information by means of artillery intelligence agencies.

w Serving as unit's fire support coordinator (FSC) when directed by the commander.

AVIATION SAFETY OFFICER

The aviation safety officer performs the general duties of a special staff officer under the G-3 with respect to aviation safety. His staff responsibilities include:

w Promoting the early discovery of unsafe trends or practices in flight operations.
w Coordinating training programs designed to further interests and education in aviation safety.
w Assisting in aircraft accident investigations to determine causes and to make recommendations.

NUCLEAR, BIOLOGICAL, AND CHEMICAL WEAPONS EMPLOYMENT OFFICER

The nuclear and chemical weapons employment officer performs the general duties of a special staff officer, under the staff cognizance of the G-3, with respect to nuclear and chemical weapons employment. His staff responsibilities include:

- Supervising the determination of requirements for nuclear and chemical munitions.
- Evaluating enemy vulnerability to nuclear and chemical weapons.
- Supervising the establishment and functioning of the offensive nuclear and chemical capability.
- Assisting in the preparation of fire support plans when the employment of nuclear and chemicel weapons is contemplated.

(4) Assistant Chief of Staff, G-4/(S-4), Logistic Officer. The G-4 is the principal staff assistant for all logistic matters and for planning, coordinating, and supervising the provision of CSS in the areas of supply, maintenance, transportation, health services, engineer support, landing support, materials handling, food services, mortuary affairs, and host nation support. Every unit staff has a logistic officer. At the regimental and battalion levels, the S-4 also has staff responsibility for financial management. The G-4 performs the following functions:

- Analyzes courses of action and estimates supportability from a logistic/CSS perspective
- Maintains visibility of logistic/CSS status
- Identifies CSS requirements and prioritizes CSS through close and continuous coordination with the G-3
- Develops logistic and CSS plans based on the concept of operations and in close coordination with the G-3 and supporting CSS units[8]
- Recommends the employment of organic and assigned/attached CSS elements
- Recommends intelligence requirements to the G-2
- Plans, coordinates, and supervises the collection, identification, and evacuation of the deceased and the disposition of personal effects
- Coordinates with the G-3 for CSS of tactical troop movements
- Plans, coordinates, and supervises nontactical troop movements
- Coordinates with the G-1 and the G-3 on transporting replacement personnel and prisoners of war

[8] The logistic plan will normally be prepared only at the MEF level. It deals primarily with external, deployment-oriented, and theater-level support, while the CSS plan is oriented to internal, combat-oriented support.

- Conducts, with the support of the comptroller and the staff judge advocate or legal officer, procurement and contracting
- Plans and supervises, in coordination with the civil affairs officer, the use of local services, supplies, and facilities
- Manages real property and facilities, except field fortifications and command and control facilities
- Plans, in coordination with the G-3 and supporting CSS units, the location of logistic support areas and the security of rear area facilities and lines of communication
- Supports the G-3 and the G-5 in conducting force deployment and employment planning, including preparing time-phased force and deployment data (TPFDD) and coordinating strategic transportation
- Exercises staff cognizance for embarkation planning
- Exercises staff cognizance over the following:
  - Dental officer
  - Embarkation officer
  - Medical officer
  - Supply officer
  - Maintenance management officer
- Exercises staff cognizance for preparation of Annex D (Logistics) and Annex P (Combat Service Support) to the OPLAN/OPORD).

Staff Cognizance of G-4 Officer

AIRCRAFT MAINTENANCE OFFICER

The aircraft maintenance officer is the senior maintenance manager of the command and performs the general duties of a special staff officer, under the cognizance *of* the G-4, with respect to the support and maintenance of aircraft and associated ground support equipment. His staff responsibilities include:

- Serving as a technical advisor to the commander and his staff on aircraft and ground support equipment.

- Supervising and coordinating aviation maintenance functions within the command to ensure compliance with technical directives and the plans and policies of the commander.

- Analyzing data provided through the data collection system to determine support and maintenance problems and recommending corrective action.

- Reviewing all accident and damage materiel reports to promote the early discovery of unsafe trends and practices in aviation maintenance.

- Furnishing technical assistance to subordinate units in matters relating to aviation maintenance.

- Ensuring that maintenance management of *all* aircraft components and ground support equipment is exercised to the fullest extent at all levels within the command.

AVIATION ORDNANCE OFFICER

The aviation ordnance officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to aviation munitions and ordnance. His staff responsibilities include:

- Serving as technical advisor to the commander and his staff on aviation ordnance equipment and class V(A) ammunition. This includes munitions for training and operational use. Both nonnuclear and nuclear munitions are under his technical and logistical cognizance. offensive chemical weapons, along with their associated handling and delivery equipment, are also within his technical purview.

- Implementing a conventional weapons safety program within the command consisting of inspections of munition handling procedures and loading techniques and ensuring that all ordnance safety regulations are strictly adhered to.

- Recommending and supervising the procurement, allocation, use, and storage of aviation ordnance equipment, including targets and associated hardware and class V(W) and V(A) ammunition; monitoring distribution of aviation conventional ordnance and being familiar in sufficient detail with current contintency and general war plans involving his organization in order to assess availability of required munitions; and initiating corrective action as required.

- Supervising and coordinating aviation ordnance functions within the command to ensure compliance with the plans and policies of the commander.

- Furnishing technical assistance to subordinate units in matters related to aviation ordnance and related equipment.

Comptroller. The comptroller has responsibility for financial management. The comptroller will operate under the staff cognizance of the chief of staff. A comptroller will be assigned only to major commands. At commands not authorized a comptroller, staff duties pertaining to fiscal matters may be assigned to one or more staff sections. In these instances, all comptroller responsibilities would normally be assigned to the AC/S G-4 except for disbursing matters, which would be assigned to the G-1. The comptroller's responsibilities include the following:

- Budgeting
  - Prepares guidance, instructions, and directives for developing and executing the command's budget
  - Reviews the resource requirements and justifications for the various financial programs of the command
  - Compiles the annual budget
  - Recommends allocation of funds and provides funding ceilings to subordinate units
  - Initiates action for financial adjustments, when required, in the amount of funds made available
  - Improves financial management efficiency
- Accounting
  - Maintains required records, including records of obligations and expenditures against allotments and project orders
  - Maintains records for the plant property account and for financial transactions of all classes of property
  - Provides for execution of tasks involved in civilian pay, leave, and retirement
  - Prepares financial accounting reports
  - Supervises cost accounting operations
  - Submits property returns
  - Supervises timekeeping operations
  - Prepares civilian payrolls

- Disbursing
  - Accomplishes payment of military and civilian payrolls, travel and per diem allowances, and public vouchers
  - Collects proceeds of sales and other funds for credit to the United States
  - Registers allotments and savings bonds
  - Prepares disbursing reports and returns
- Auditing and reviewing
  - Designs new and improves existing audit policies, programs, methods, and procedures to monitor execution of funded programs
  - Tests the reliability and usefulness of accounting and financial data
  - Examines the effectiveness of control provided over command assets and makes appropriate recommendations for any required action
  - Coordinates all matters pertaining to external audits, including monitoring the implementation of recommendations and initiating follow-up action
  - Participates in inspections of subordinate commands in the area of financial management
  - Analyzes the requirements of all financial management directives promulgated by higher authority and prepares amplifying directives for dissemination within the command
  - Conducts routine analysis of all financial management reports submitted by subordinate units to ensure accuracy, correctness of format, and compliance with directives and to ascertain the financial condition of the reporting unit
- Conducts financial management training programs for the staff and subordinate units.

Supply Officer. The supply officer is responsible for all general supply activities within the command. The supply officer operates under the staff cognizance of the G-4/S-4. The supply officer performs the following functions:

- Plans, coordinates, and supervises the acquisition, storage, control, security, issue, recovery, and redistribution of all supplies and equipment
- Maintains supply-related directives and publications for the command

- Furnishes advice and information relative to supply procedures, including property accounting, property responsibility, and standardization of materiel

- Maintains technical publications for the command, including procurement, allowances, and distribution, as provided for in the Marine Corps technical publications system.

AVIATION SUPPLY OFFICER

The aviation supply officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to aviation supply matters. Staff responsibilities include:

wPlanning, coordinating, and supervising the acquisition, storage, control, security, issue, recovery, and redistribution of all aviation supplies and equipment including, as appropriate, Marine Corps supplies and equipment.

wSupervising and furnishing advice and information relative to the managerial and technical aspects of the aviation supply system internal and external to the command to include its interface with other echelons of supply and the Naval Aviation Supply System.

wCoordinating the development and implementation of plans, policies, and programs for the proper utilization of aviation funds.

w Reviewing, analyzing, and evaluating managerial and performance data in relation to the aviation supply effectiveness and readiness posture of the command to accomplish its mission and commitments.

wCoordinating the requirements, utilization, employment, technical education, and proper management of supply personnel resources.

AVIONICS OFFICER

The avionics officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to the maintenance of aircraft electrical and electronic systems and the associated special support equipment. His staff responsibilities include:

w Serving as technical adviser to the commander and his staff on avionics systems and their associated special support equipment.

w Supervising and coordinating avionics maintenance functions within the command to ensure compliance with technical directives and the plans and policies of the commander.

w Analyzing data provided through the data collection system to determine avionics maintenance trends which will have an impact on weapons systems availability.

w Managing the operation for the calibration/qualification of test equipments applicable to the aviation maintenance programs.

wFurnishing technical assistance to subordinate units in matters relating to avionics maintenance.

wConducting administrative and materiel inspections of the subordinate units.

wProviding guidance and supervision for an efficient and current technical training program.

Dental Officer. The dental officer is responsible for dental matters and coordinating dental activities within the command. The dental officer operates under the staff cognizance of the G-4. The dental officer performs the following functions:

w Exercises staff supervision and provides professional and technical assistance with respect to all dental matters affecting the command

w Coordinates with the medical officer in the development and implementation of plans to ensure the command's oral health and readiness

- Develops and implements the command's preventive dentistry program
- Ensures the maintenance of professional standards and adequate levels of dental care and treatment
- Recommends employment of dental personnel and equipment for effective and efficient use of dental services
- Establishes priorities for dental care and treatment

- Plans and supervises the professional training of dental personnel

- Coordinates with the medical officer and the civil affairs officer in the development of programs for dental support of humanitarian and civic action operations

- Coordinates with the medical officer for the temporary use of dental personnel to assist in the care, treatment, and evacuation of mass casualties.

Medical Officer. The medical officer has responsibility for medical matters and coordinating medical service support for the command. The medical officer operates under the staff cognizance of the G-4. All unit staffs include a medical officer. The medical officer performs the following functions:

- Advises on the health services requirements of the command and, when relevant, the indigenous population within the commander's area of responsibility

- Advises on the medical threat in the area of operations, taking into consideration the following:

- | Environmental factors
- | Endemic and epidemic diseases
- | Weapons of mass destruction
- | Directed-energy devices

- Plans for treatment of casualties resulting from enemy employment of weapons of mass destruction; identifies biological agents used against friendly troops; advises on preventive medicine measures to protect friendly troops from the effects of potential enemy biological and chemical agents; and furnishes assessments of the impact of potential and actual use of weapons of mass destruction on friendly troops

- Determines requirements for and supervises the requisitioning, procurement, storage, maintenance, distribution, and documentation of medical equipment and supplies
- Determines requirements for medical personnel to support operations and requests augmentation when necessary

- Exercises staff supervision over medical training in the command

- Exercises staff supervision and technical direction over medical activities throughout the command, including personal hygiene, environmental sanitation, first aid, sanitary aspects of food service and food procurement, and other preventive medicine activities affecting the health of the command

- Plans and supervises health service operations, including the following:
  - | Treatment and evacuation
  - | Preventive medicine in the command and, as required, for indigenous populations
  - | Professional health service in subordinate units
  - | Preparation of reports
  - | Medical supply and maintenance
  - | Medical laboratory service
  - | Whole blood control, including planning, acquisition, storage, and distribution
  - | Professional health services for enemy prisoners of war and civilian internees/ detainees

| Coordination of medical requirements for facilities and transportation

| Coordination with the civil affairs officer of the development of programs for medical support of humanitarian and civic action operations.

Ordnance Officer. The ordnance officer is responsible for all ordnance matters. The ordnance officer operates under the staff cognizance of the G-4/S-4. The ordnance officer performs the following functions:

- Serves as technical advisor to the commander and his staff on ordnance matters and exercises technical direction over ordnance activities throughout the command
- Supervises the determination of requirements for, and the requisitioning, procurement, storage, and distribution of, ordnance material, that is, tracked vehicles, optical instruments, ammunition, missiles, weapons, and so on
- Makes estimates of operational ammunition requirements, establishes priorities, and monitors mount-out code plan ammunition allowances and the issuing of ammunition for training and combat within established priorities and allowances
- Plans and supervises the recovery, evacuation, and maintenance of ordnance materiel beyond the capability of using units
- Coordinates the establishment and operation of ordnance maintenance and supply activities
- Provides for technical inspection of ordnance materiel, including organizational maintenance of such materiel
- Plans and supervises the collection and reclamation of captured or abandoned ordnance materiel
- Plans and supervises explosive ordnance and nuclear weapons disposal.

EMBARKATION OFFICER

The embarkation officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to the loading and unloading of personnel, equipment, and supplies in movement by ship, aircraft, and railroad. His staff responsibilities include:

wFormulating loading plans for land, sea, and air movement in accordance with administrative and tactical requirements.

wMaintaining liaison with appropriate ground, sea, and air transportation commands.

wSupervising activities relating to loading and unloading to ensure adherence with established priorities.

wDetermining requirements for and recommends allocation of transportation means.

e. Compiling and maintaining lift requirement data for the command.

wMaintaining characteristics data for land, sea, and air carriers.

wPlanning, conducting, and supervising embarkation training.

ENGINEER

The engineer performs the general duties of a spacial staff officer, under the staff cognizance of the G-4, with respect to engineer matters. The force/division engineer is normally the senior engineer of the force/ division. He advises the commander on the employment of engineer forces. His staff responsibilities include:

wPlanning technical training of engineer and nonengineer personnel in engineer duties.

wPlanning engineer reconnaissance, field surveys, terrain studies, and mapping operations, including technical assistance, in coordination with the G-2, in the collection and processing of information for preparation and revision of maps.

w Planning for engineer intelligence and dissemination thereof.

wAccomplishing comprehensive analysis of all engineer tasks required to implement the force/division commander's plan.

wMaintaining liaison and coordination with higher and adjacent commands on engineer matters.

wDetermining engineer units that can best accomplish required tasks and evaluating, planning for, and coordinating engineer support/unit requirements nor organic to the command.

wPlanning, in coordination with the G-3, and technically supervising construction of defensive works including field fortifications, demolitions, obstacles, and minefields.

wMaintaining detailed minefield, barrier, and obstacle records.
utilities.

wRecommending traffic regulations dictated by physical conditions of routes of communications.

wProviding advice and technical supervision on camouflage matters**.**

wPlanning construction, repair, and maintenance of essential

wPlanning construction, repair, and maintenance of camps, advanced landing fields, warehouses, hospitals, roads, bridges, piers, pipelines, and river-crossing sites.

wExercising staff supervision and making recommendations concern ing requirements for procurement, storage, and distribution of engineer equipment and supplies.

wExercising appropriate technical staff supervision and inspection of corresponding staff sections and activities of subordinate and attached units.

FISCAL OFFICER

The fiscal officer performs the general duties of a special staff officer, under the staff cognizance of the accounting officer, the comptroller, or the G-4, as directed with respect to allotments of appropriated funds. His staff responsibilities include:

w Maintaining records reflecting the use and status of appropriated funds made available to the commander by allotment, suballotment, or other means.

wPreparing reports pertaining *to* the status of allotments and other fiscal matters.

FOOD SERVICE OFFICER

The food service officer performs the general duties of a special staff officer, under the cognizance of the G-4, with respect to food service. His staff responsibilities include:

wConducting surveys on food equipment and dining facility personnel.

wSupervising the training of dining facility personnel.

wCoordinating with the G-1 on the assignment of food service personnel.

wCoordinating the activities of food management teams when aboard the command.

wConducting inspections of dining facilities to ensure proper food preparation and correct use of dining facilities and food service equipment.

wAdvising the commander on the adequacy of the subsistence issue and the development of food service facilities under field or combat conditions. coordinate the feeding of tactical organizations.

wProviding advice regarding the functional layout of food service equipment on all construction projects and rehabilitation and major equipment programs for food service facilities.

GROUND SAFETY OFFICER

The ground safety officer performs the general duties of a special staff officer, under the cognizance of the G-4, with respect to ground safety. His staff responsibilities include:

wCoordinating and supervising all aspects of the ground safety program.

wConducting inspections and maintaining records of ground accidents to keep the commander informed of the problems and progress of the ground safety program.

wCoordinating training programs designed to further awareness and education in ground safety.

LANDING SUPPORT OFFICER

The landing support officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to landing support matters. His staff responsibilities include:

wAnalyzing tactical plans and their attendant landing support requirements.

wPlanning for tactical employment of landing support units to support both the surface assault (shore party) and the helicopterborne assault (helicopter support team/group).

wDetailed planning for organization of beach support areas and landing zone support areas.

wPlanning and supervising training of landing support units.

MAINTENANCE MANAGEMENT OFFICER

The maintenance management officer performs the general duties of a special staff officer under the staff cognizance of the G-4 and is the primary point of contact in maintenance management matters. Responsibilities encompass all commodities of Marine Corps ground equipment and staff responsibilities include:

wDeveloping and managing the command's maintenance management program.

wAdvising the commander on all matters related to equipment maintenance and the impact of the command's maintenance effort on equipment readiness.

wExercising staff supervision over the maintenance management programs of subordinate units and providing them technical assistance and instruction in maintenance management matters.

wExercising staff and technical supervision over field maintenance and salvage of engineer material.

wCoordinating the command's equipment inspection program in support of the maintenance management effort.

wManaging the automated information system associated with the Marine Corps Integrated Maintenance Management System (MIMMS).

wCoordinating the command's maintenance management related programs, such as Operational Readiness Float (ORF), Quality Deficiency Reporting (QDR), Modification Control, Calibration Control, Technical Publications Control, Corrosion and Wear Control Program, and other maintenance related areas.

wEnsuring close coordination with supply operations and management in order to provide timely support of maintenance requirements.

wExercising staff technical supervision over field maintenance matters and salvage of material and equipment.

MOTOR TRANSPORT OFFICER

The motor transport officer performs the general duties of a special staff officer with respect to motor transport matters and advises the commander on the employment of motor transport assets. Staff responsibilities include:

w Supervising the planning of technical training for motor transport related duties and programs.

wCoordinating planning for motor transport intelligence and the dissemination thereof.

wConducting comprehensive analyses of all motor transport tasks required to implement the commander's plans.

wMaintaining liaison with higher and adjacent commands pertaining to motor transport matters.

w Analyzing and evaluating motor transport capabilities throughout the command.

wCoordinating all motor transport support requirements and directing commitments, as appropriate, to organizations best capable of providing the support required.

wMonitoring and providing technical supervision to all motor transport requirements, commitments, and movements.

wSupervising and coordinating the maintenance of required motor transport records and reports.

wDeveloping, coordinating, implementing, and monitoring command technical inspections for motor transport.

wMonitoring motor transport combat readiness in all subordinate organizations of the command.

wRecommending and supervising requirements for procurements, distribution, and storage of motor transport assets.

wAdvising the commander on all technical matters concerning motor transport.

TRANSPORTATION OFFICER

The transportation officer performs the general duties of a special staff officer, under the staff cognizance of the G-4, with respect to transportation matters. Staff responsibilities include:

wServing as technical advisor to the commander and the staff on commercial transportation matters other than motor transport.

w Assisting the commander and the staff in planning and coordinating the strategic movement of the command and its resupply by commonuser transportation assets.

wMaintaining close liaison with other staff officers and the common-user transportation operating agencies.

(5) Assistant Chief of Staff, G-5, Plans Officer . The G-5 is the principal staff assistant for all long-range (future) planning and joint planning matters. Normally, a G-5 is found only at the MEF (and MARFOR) level; at lower echelons of the MAGTF, future planning is the responsibility of the G-3/S-3. The G-5 performs the following functions:

w Conducts future planning and supervises the future plans section

| Provides a liaison element to participate in the higher headquarters planning process

- | Receives the MEF mission from higher headquarters and initiates the MEF planning process
- | Analyzes the mission assigned and develops an outline plan
- | Transitions the outline plan to the G-3 to initiate detailed planning

- Supports planning for current operations
- Ensures general staff participation in the joint planning process
- Conducts contingency planning for joint operations
  - | Determines forces required and available
  - | Coordinates force deployment and employment planning
  - | Provides planning recommendations for host nation support
  - | Coordinates and reviews the TPFDD input through the Joint Operation Planning and Execution System (JOPES)
  - | Trains the staff on JOPES procedures.

(6) Assistant Chief of Staff, G-6/(S-6), Communications and Information Systems Officer. The G-6 is the principal staff assistant for all communications and information systems matters. Every unit staff has a communications and information systems officer. The G-6 performs the following functions:

- Analyzes courses of action and estimates supportability from a communications and information systems perspective
- Maintains visibility of communications and information systems status
- Identifies communications and information systems requirements—personnel, equipment, supplies, and facilities—and prioritizes communications and information systems support through close and continual coordination with the G-3
- Develops communications and information systems plans, orders, and SOPs based on the concept of operations and in close coordination with the G-3 and supporting communications and information systems units
- Recommends and supervises the employment of organic and assigned/attached communications and information systems elements
- Recommends intelligence requirements to the G-2

- Advises the staff on the technical and operational aspects of communications and information systems employment
- Plans, in coordination with functional area users, and supervises communications and information systems training
- Coordinates with the G-3 on the location, echelonment, and displacement of the headquarters and command and control facilities to ensure adequate and continuous communications and information systems support
- Plans and supervises the installation, operation, and maintenance of communications networks
- Manages radio frequency assignments
- Provides LAN/WAN management, including Internet protocol (IP) address and routing management
- Ensures compliance with interoperability standards and communications protocols
- Coordinates with the G-4 for the supply and maintenance of communications and information systems
- Implements communications and information systems security procedures in coordination with the other staff sections
- Establishes communications and information systems liaison with senior, subordinate, adjacent, supported, and supporting units
- Prepares OPLANs and OPORDs (staff cognizance for preparation of Annex K (Communications and Information Systems) to the OPLAN/OPORD).

d. Special Staff. This section describes the specific responsibilities of each of the special staff officers. Within their respective fields, special staff officers act as advisors, planners, supervisors, and coordinators. They are authorized direct access to the chief of staff or the executive officer and direct liaison with other staff sections in matters of interest to those sections. However, special staff officers normally will operate under the staff cognizance of either the chief of staff/executive officer or a member of the general/executive staff.

Public Affairs Officer. The public affairs officer is responsible for providing information about the Marine Corps to the public, the media, and the internal Marine Corps audience and for

establishing harmonious relations with local communities and the general public. The public affairs officer operates under the staff cognizance of the chief of staff. The public affairs officer performs the following functions:

- Advises the commander and staff on the probable public impact of command decisions/policy and, as the command "spokesman," recommends policies and procedures with respect to the release of information to the public and the media
- Works closely with the civil affairs officer to integrate strategy and unify efforts to communicate the command perspective to the local population.
- Prepares and disseminates accurate and timely information about the Marine Corps and the command to the media and the general public in the spirit of the Freedom of Information Act
- Advises the commander and staff on Privacy Act and Freedom of Information Act matters
- Serves as the command's contact with the media and, in this capacity, answers media queries, coordinates all media visits/interviews, and escorts media representatives
- Supports the internal information program to inform Marines and the Marine family of Marine Corps and command matters through supervision of such internal news outlets as command newspapers, radio/television facilities, and so on
- Develops and coordinates a community relations program, including both on- and off-base activities, to foster mutual understanding and acceptance with the general public and the communities directly affected by the command.

Security Manager. The security manager is responsible for management of the command information and personnel security program. The security manager operates under the staff cognizance of the chief of staff. Every staff will include a security manager, although the billet will often be an additional duty. The security manager performs the following functions:[9]

- Serves as the commanding officer's advisor and direct representative in matters pertaining to the security of classified information and personnel security
- Develops written command information and personnel security procedures, including an emergency plan that integrates emergency destruction bills when required
- Formulates and coordinates the command's security education program

[9] Although the security manager is responsible to the commander for all of the areas listed, he will not normally personally handle all of the security duties listed. For example, the adjutant may handle classified material control. However, the security manager is responsible for the coordination of the overall command security program.

- Ensures that threats to security, compromises, and other security violations are reported, recorded, and, when necessary, investigated vigorously; ensures that incidents falling under the investigative jurisdiction of the Naval Criminal Investigative Service (NCIS) are immediately referred to the nearest NCIS office

- Administers the command's program for classification, declassification, and downgrading of classified information

- Coordinates the preparation and maintenance of classification guides in the command

- Maintains liaison with the command's public affairs officer to ensure that proposed press releases that could contain classified information are referred for security review

- Ensures compliance with accounting and control requirements for classified material, including receipt, distribution, inventory, reproduction, and disposition

- Coordinates with the security officer on physical security measures for protection of classified material
- Ensures that any electrical or electronic processing equipment meets control of compromising emanations (TEMPEST) requirements

- Ensures security control of visits to and from the command when the visitor requires, and is authorized, access to classified information

- Ensures protection of classified information during visits to the command when the visitor is not authorized access to classified information

- Prepares recommendations for release of classified information to foreign governments

- Ensures that all personnel who are to handle classified information or who are to be assigned to sensitive duties are appropriately cleared and that requests for personnel security investigations are properly prepared, submitted, and monitored

- Ensures that access to classified information is limited to those with the need to know

- Ensures that personnel security investigations, clearances, and accesses are recorded
- Coordinates the command program for continual evaluation of eligibility for access to classified information or assignment to sensitive duties

- Maintains liaison with the command's special security officer concerning investigations, access to sensitive compartmented information (SCI), continuous evaluation of eligibility, and changes to information and personnel security policies and procedures

- Maintains records of personal foreign travel reported by assigned personnel

- Coordinates with the command communications and information systems and physical security officers on matters of common concern.

Information Management Officer. The unit information management officer is responsible for establishing the policy and procedures for information management within the command. The information management officer operates under the staff cognizance of the chief of staff or executive officer; if an information management officer is not designated, then this duty is the responsibility of the chief of staff or executive officer. The information management officer performs the following functions:

- Advises the commander and staff on information management matters
- Coordinates information management efforts throughout the organization
- Coordinates the CCIR process
- Develops and implements, in close coordination with the communications and information systems officer and other staff principals and subordinate units' information management officers, effective information dissemination techniques
- Develops training programs on information management procedures
- Coordinates with the unit security manager and the G-6/S-6 the development and implementation of information security (INFOSEC) procedures
- Coordinates with the G-6/S-6 on LAN/WAN management and networking issues
- Develops and publishes the information management plan.

Headquarters Commandant. The headquarters commandant has responsibility for local operational, administrative, and logistic support of the headquarters. The headquarters commandant operates under the staff cognizance of the chief of staff. The headquarters commandant performs the following functions:

- Exercises command over Marines assigned to the headquarters who are not assigned or attached to subordinate commands
- Provides local headquarters security, including construction of defensive positions
- Supervises the operation of supply, maintenance, motor transport, health services, and food service activities serving the headquarters
- Maintains facilities for the reception and accommodation of visitors and augmentees
- Supervises police and maintenance of headquarters facilities

- Supervises the billeting of headquarters personnel
- Assists in the selection of specific command echelon sites in conjunction with the G-1, G-3, and G-6
- Conducts training and morale activities for headquarters personnel.

Chaplain. The staff chaplain has responsibility for matters pertaining to the moral, spiritual, and religious well-being of the command. The chaplain operates under the cognizance of the chief of staff. The chaplain's responsibilities include the following:

wAssisting the G-1 in determining and improving the state of morale

w Advises the commanding officer or commander on all matters related to religious ministries.

w Prepares Appendix 6 (Religious Ministry Support Plan) to ANNEX E to the OPLAN, OPORD, or campaign plan.

w Administers the Command Religious Program. Conducts divine services; administers sacraments and ordinances; performs rites and ceremonies in accordance with the manner and forms of the chaplain's faith group; provides outreach programs, spiritual growth retreats and religious education; and facilitates religious ministries for personnel of other faith groups.

w Provides pastoral care and pastoral counseling, including visiting the sick and confinees, safeguard the privileged communication of service members, eligible family members and other authorized personnel throughout the Department of the Navy.

(a) A communication is presumed confidential if it is a formal act of religion or a matter of conscience that is privately conveyed to a military chaplain's or chaplain's assistant in his or her official capacity.

(b) If a chaplain or a chaplain's assistant must impose any condition upon confidential communication, she or he must explicitly state those conditions or reservations before proceeding with the communication.

w Advises the commanding officer or commander on moral issues and provides input to programs which emphasize Marine Corps core values.

w Reports to an assigned position or battle station in combat, at general quarters or similar situations to provide ministry as required.

w Assists in the Casualty Assistance Calls Program by providing ministry to the next of kin of deceased and seriously ill personnel. Chaplains shall not be designated as the Casualty Assistance Calls Officer.

w Develops plans, program, and budgets to execute religious ministries within the command.

w Advises the command chaplain of the unit, or of the command to which the unit is attached, of necessary actions concerning programming of chaplain and Religious Program Specialist (RP) billets and other support requirements.

w Provides liaison with local religious groups, Non Governmental Organizations, and Private Volunteer Organization in the U.S. or foreign countries.

w Fulfills faith group requirements for maintaining ecclesiastical endorsement.

w Provides supervision and training for assigned junior officers, enlisted members, and civilian personnel.

w Prepares and maintains directives and procedures pertinent to the CRP, including chapel usage instructions, turnover files, etc.

w Reports semi-annually a summary of activities to the major claimant staff chaplain; on a report form to be determined by the same.

Staff Judge Advocate/Legal Officer. The staff judge advocate (senior judge advocate in commands not having general court-martial authority) is responsible for assisting the commander in the administration of military justice and the processing of legal matters. In units not authorized a staff judge advocate these duties are performed by the legal officer. The staff judge advocate operates under staff cognizance of the chief of staff, and the legal officer will normally operate under the staff cognizance of the G-1/S-1. The staff judge advocate (or legal officer) performs the following functions:

- Assists the commander in the administration of military justice
- Prepares all court-martial orders issued by the headquarters
- Reviews and recommends action on investigations and claims
- Advises and provides legal assistance to military personnel on legal problems
- Advises and provides legal assistance to the commander and staff on other legal matters, including the following:

- Law of war and rules of engagement
- Civil-military relations and jurisdiction
- Civil affairs and civic action
- Civil and administrative law
- International law and relations
- Claims, litigation, investigations, and reports
- Local law in the area of operations
- Negotiation of contracts with indigenous organizations
- Contract law
- Labor law
- Environmental law

- Conducts training, as necessary, for members of the command on legal matters, including training on the law of war and standing rules of engagement, the administration of military justice, and the conduct of investigations.

Provost Marshal. The provost marshal is responsible for all MP matters. The provost marshal operates under the staff cognizance of the chief of staff. The provost marshal performs the following functions:

- Coordinates with the G-3 in—
  - Conducting battlespace circulation control, including motor patrols, movement control procedures, roadblocks, checkpoints, and refugee control
  - Providing area security, including motor and foot patrols, airbase ground defense, and rear area security
- Coordinates with the civil affairs officer in controlling the civil population
  - Cooperates with the civil authorities with respect to implementation of antisabotage measures

- Supports civil authorities during domestic disturbances and disasters

- Coordinates with the G-2 in—
  - Providing information from MP activities to appropriate collection agencies
  - Receiving intelligence information to support MP activities

- Coordinates with the G-4 in—
  - Enforcing traffic regulations and installing route markers and traffic control signs
  - Controlling mass movement of refugees

- Coordinates with the G-1 in—
  - Enforcing police regulations among members of the armed forces and in areas occupied by troops
  - Apprehending and maintaining custody of offenders
  - Conducting criminal investigations
  - Cooperating with civil authorities with respect to police protection, blackouts, criminal investigations, and black market suppression
  - Apprehending stragglers
  - Collecting, guarding, and evacuating enemy prisoners of war, including recommending the location of collection points and enclosures
  - Performing law-and-order functions in occupied areas
  - Conducting customs and counterdrug activities.

e. Personal Staff. The commander's personal staff consists of the sergeant major and, in some commands, aides and personal secretaries. The personal staff is directly responsible to the commander. Specific duties of the aide and the sergeant major are discussed below.

(1) Sergeant Major. The sergeant major's duties are those specifically assigned by the commander and generally concern matters pertaining to the discipline, welfare, conduct, morale, and leadership of enlisted personnel of the command. The sergeant major will normally perform the following functions:

- Advise the commander and staff in matters pertaining to enlisted personnel, including appraisals of the morale and discipline of the unit

- Implement policies and standards concerning enlisted personnel performance, training, personal appearance, and conduct
- Maintain communications with unit staff NCOs and other enlisted personnel through staff NCO channels
- Provide guidance and counsel to staff NCOs and other enlisted personnel
- Participate in the reception and orientation of newly assigned enlisted personnel.

(2) Aides. Aides serve as personal assistants to a general officer. An aide typically does the following:

- Provides for the general officer's personal well-being and security
- Helps to prepare and organize the general officer's schedule and activities
- Meets and hosts the general officer's visitors
- Coordinates protocol activities
- Acts as an executive assistant
- Supervises other personal staff members (secretaries, assistant aides, and drivers).

5003. Staff Action. Staff actions are designed with one aim—to assist the commander. This assistance consists mainly of staff contributions to the timely making and executing of decisions. The commander and staff should be continually alert to opportunities to streamline bureaucratic, cumbersome, or time-consuming practices. Staff procedures must contribute directly to mission accomplishment. The staff procedures discussed here are principally concerned with the flow of information through the organization and thus fall largely into the realm of information management, which is the subject of the next chapter.

a. Marine Corps Planning Process. The most important activity conducted by staff officers is participation in the MCPP. Although the operations section has primary responsibility for the MCPP, every staff officer participates in and must have a complete understanding of the MCPP. As part of that process, staff officers make continuing estimates and analyses as a basis for the development and analysis of courses of action. Once the commander has announced his decision and presented his concept of operation, each staff section prepares its appropriate portion of the plan and/or order implementing the commander's decision. See Appendix C for and overview and MCWP 5-1 for a detailed presentation of the MCPP.

b. Coordination. All staff actions are focused on coordination. This coordination must extend beyond the unit headquarters to include higher, adjacent, supporting, supported, and subordinate units. The chief of staff/executive officer has overall responsibility for staff coordination. Under his direction, general/executive staff sections have primary responsibility for coordinating those activities that fall within their staff cognizance. When overlap exists between staff interests with respect to a particular matter, the chief of staff/executive officer assigns primary coordinating responsibility to one staff section and collateral responsibilities to the other staff sections concerned. Although one staff section may have primary responsibility for coordination, every staff section coordinates its activities with those of every other staff section concerned.

The greatest success is achieved when all staff officers understand the meaning and purpose of coordination and habitually practice it on their own. Of prime importance in attaining coordination are the desire and will to cooperate. The staff officer must subordinate his own interests and those of his staff section to contribute to the effectiveness of the staff and the command as a whole. Coordination is developed through understanding, training, and practice. A staff officer should possess a basic knowledge of the organization, operations, administration, capabilities, and limitations of all elements of the command and should have had experience as commander of a unit appropriate to his rank. He must also know the responsibilities of all staff sections in the command, as well as what kinds of information they need and can provide. When possessing this broad knowledge and experience, the staff officer will realize when problems call for consultation with other staff sections and with the staffs of other units and will recognize the particular features that require consultation.

Coordination is effected by the following methods, some of which are described in greater detail in subsequent paragraphs. The time available; the deployment status of the unit, garrison or deployed; and the preferences of the commander are normally the most important factors in determining the methods to be used.

- Close and continual contact and exchange of information between staff sections, staff officers, and corresponding staff sections of other units by means of visits, telephone calls, and e-mail

- Prompt dissemination of information, decisions, plans, orders, and instructions to all staff sections and to all units concerned

- Effective message control to ensure routing of messages and correspondence to all interested sections and to all interested units

- Formal routing of staff papers to all interested sections and units for information and comment

- Staff briefings

- Conferences and meetings
- Staff visits

- Staff inspections

- Liaison.

c. Staff Briefings. Staff briefings are the primary technique for keeping the commander and staff informed of the current situation and major problems facing the command. The chief of staff is responsible for scheduling and orchestrating briefings and meetings for the commander. Briefings are designed for the rapid oral dissemination of information to a group of people and not for settling issues, planning, or solving problems. However, command decisions may occasionally be made at staff briefings. Attendance at briefings varies with the subject, size of the headquarters, and type of operations being conducted. The chief of staff/executive officer guides the presentation to bring the commander and the staff up-to-date on the situation and actions since the last briefing. In combat, briefings are held as frequently as required by the situation. Each person attending the briefing is thus made aware of what is going on throughout the command. Such general comprehension is difficult to achieve by other means. Staff officers attending the briefing take notes on the portions of the briefing pertinent to their section for subsequent action. Each staff officer should be prepared at any time to present a briefing on the activities of his own section. Information is not knowledge. the focus of briefings must be to provide the commander with assessments, not information. The Chief of Staff must be careful to guard the commander's time and energy to ensure that briefings focus the commander on the big issues, provide assessments and ask for guidance and decision. The Chief of Staff must be aware of the danger of letting a briefing cycle become the focus of the staff.

d. Staff Meetings and Conferences. Conferences and meetings are a particularly effective means of coordination because they provide an opportunity for the face-to-face exchange of information and views among all parties interested in a problem. With the fielding of video teleconferencing (VTC) technology, which is discussed in the next chapter, these meetings and conferences can take place between geographically dispersed participants. Meetings are more informal than conferences. Meetings may be strictly for the exchange of information and may or may not include an agenda and a report of discussions. Conferences may be formal or informal, but will normally include both an agenda and a report. Staff meetings must have a purpose, be focused, and must be used only when needed. They must not be used as an excuse to defer a decision or an action.

The conference agenda, prepared and circulated in advance of the conference, is the principal means by which the efforts of the conference are organized toward a common objective. The simplest form of agenda is a memorandum to the prospective participants indicating the date, time, and place of meeting and a list of the items to be discussed. A complete formal agenda provides, in addition, a statement of each item to be discussed and the sequence in which they are to be considered, a list of available reference material that may assist conferees in preparing for the conference, a list of individuals who will be requested to provide special information at the conference, and the name of the individual who will preside.
Before the conference, all personnel familiarize themselves with the agenda and the items to be considered, ascertain the policies or desires of their commanders with respect to those items, and

determine the extent of their authority to commit their commanders. After the conclusion of a conference, other than one of very narrow interest, the results of the conference are summarized and circulated to the staff. The commander may desire that important conference reports be discussed with all or part of his staff. In such instances, the staff officer must be prepared to present his report orally and to answer questions posed by other members of the staff.

e. Staff Visits. To obtain information concerning the status of subordinate units and to render staff assistance, staff officers frequently visit subordinate units. In garrison at MSC level and higher, a program of visits is planned by the chief of staff or by the heads of general staff sections. These visits are made in the name of the commander. When making a visit, the staff officer conducts himself so as to promote cordial relations and cooperation between the staff and the unit visited. He calls on the commander of the unit, informs him of the purpose of the visit, requests assistance if needed, and before leaving the unit, informs the commander of facts he has noted. He avoids criticism or interference with the responsibilities of the subordinate commander. If it appears that the intent of the higher commander has been misunderstood, he furnishes the subordinate commander or his staff with additional information to assist the subordinate commander in comprehending the exact desires of his superior. On his return, the staff officer makes a brief oral or written report to his commander on his observations. If written, this report is referred to all staff sections concerned, and it serves as a means of conveying information on which appropriate staff officers can take action.

f. Staff Inspections. Staff officers' inspections are made as directed by the commander and may be made by individual officers or teams. The latter method is frequently used for technical inspections. Before the inspection, the commander of the unit to be inspected should be informed of the nature of the inspection and its purpose. Inspection reports are prepared and submitted on completion of the inspection, and the commander of the inspected unit is furnished a copy. Inspection reports should be factual, clear, and concise.

g. Liaison. A commander establishes liaison with another unit by sending a representative to the headquarters of the other unit, thus providing a personal contact between the two headquarters. The commander's representative is specifically appointed as a liaison officer if his stay at the other headquarters is to cover an extended period of time or if his liaison duties are to constitute his principal responsibility. However, the function of liaison is not limited to liaison officers specifically appointed as such. Every staff officer who makes a staff visit to another headquarters performs a liaison function.

The chief of staff is responsible for establishing liaison as part of his general responsibility for coordination. Liaison officers function under his direction and supervision. Supporting units normally establish liaison with supported units. Liaison between adjacent units is established on the initiative of the units concerned or as directed by higher authority. Liaison between higher and lower units is established as directed by the former and may be covered SOPs.
Before departure from his parent headquarters, the liaison officer ascertains his exact mission and familiarizes himself with the situation of his parent unit and that of the host unit to be visited, insofar as the situation of the latter is known. He secures written credentials, if required, and ensures that

arrangements for communications and transportation between the two units will be adequate. On arrival at the host unit, the liaison officer reports to the commander or appropriate staff officer, states his mission, presents his credentials, and offers his assistance, if appropriate. He then familiarizes himself with the situation of the host and makes arrangements for securing information required by his mission and for communicating such information to his parent unit. During his liaison tour, he frequently returns temporarily to his parent unit to keep informed of its situation and makes such information available to the commander and staff of the host unit. He makes continuing reports to his parent unit on matters within the scope of his mission and maintains a record of the contents of such reports. On completion of his liaison tour, he returns to his parent unit, reports on his mission, and transmits any messages or requests from the commander or staff on the host visit (see Appendix D for additional information).

h. Completed Staff Action. Completed staff action on a problem results in the presentation of the problem, together with conclusions and any recommended courses of action, in such form that all that the commander need do, when he has made his decision, is to indicate his approval or disapproval. It includes the coordination of the action with all affected staff sections before the commander's decision and the necessary actions and supervision to ensure issuance, receipt, and understanding of necessary orders and instructions, and compliance therewith. All matters brought to the commander for decision should be presented as completed staff action. If possible, the entire problem under consideration should be presented as a single item of completed staff action. If the problem is very extensive or complex and is susceptible to more effective treatment in parts, each part may be presented separately in the form of completed staff action.

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Chapter 6

Communications and Information Systems

6001. Communications and Information Systems Support. Communications and information systems support the collection, processing, and exchange of information. Communications and information systems automate routine functions, thereby freeing commanders and staffs to focus on those aspects of command and control that require experience, judgment, and intuition. These systems, and the personnel that install, operate, and maintain them, play a key role in the command and control of the MAGTF. Communications and information systems support the commander and every staff section in every phase of operations planning and execution. These systems facilitate information flow, shared situational awareness, informed decisionmaking, and rapid dissemination of decisions. It is not an overstatement to say that the success of the MAGTF in the modern battlespace depends on the effective employment of communications and information systems.

To improve interoperability, increase efficiency, and reduce costs, the Department of Defense (DOD) has mandated that the Services move to a common set of information systems and services. The Defense Information Systems Agency (DISA) is accomplishing this through the establishment of the defense information infrastructure (DII), which includes the DISN, the GCCS, the Global Combat Support System (GCSS), and the DII common operating environment (COE). These developments are having a profound effect on MAGTF communications and information systems doctrine, organization, training, and equipment. The DISN provides the long-haul communications backbone for the MAGTF both in garrison and deployed. The Marine Corps has implemented GCCS and is migrating its tactical information systems to comply with the DII COE, beginning with TCO and IAS. DII COE compliance will ensure interoperability with the GCCS and other DII COE-compliant systems. The MAGTF communications and information systems environment must be viewed in the context of the DII.

6002. Information Systems. Automated data processing has been employed in support of garrison operations for nearly 40 years—primarily in administrative and logistic areas. In some specific warfighting areas, such as air control and fire control, automation has long been employed in the battlespace. However, the use of information systems for overall support of the MAGTF command and control process is still in its infancy. Already, it is having a significant effect on MAGTF operations. With the fielding of the intelligence/operations workstations (also known as TCO/IAS workstations), automated support for command and control will finally be available at the battalion/squadron level. The combat development community is incorporating lessons learned into changes in doctrine, training, and organization. The operational experience gained by the fleet is driving system modifications and changes in force structure. The merger of the communications and data processing occupational fields into a single community is one example of the type of changes that are necessary to effectively employ information systems in the MAGTF. All staff sections must have the capability to set up, operate, maintain, and conduct routine system administration for all information systems supporting their respective functional areas. Communications and information systems personnel under the cognizance and technical direction of the G-6/S-6 will provide technical assistance in installing and operating the

information systems. Communications and information systems personnel will also assist in interfacing those systems to data communications networks and will provide external communications connectivity.

The role of information systems is to support the processing and use of information within an organization. As discussed in chapter 4, there should be a sound plan for information management underlying the employment of information systems. To ensure that information systems are effectively supporting the flow and processing of information within an organization, the unit information manager must maintain close and continual cooperation between the functional users and information managers in each staff section and supporting communications and information systems personnel.

a. Global Command and Control System. The GCCS implements the joint C4I for the warrior concept. This concept calls for the capability to move a joint force anywhere on the globe at any time and to provide that force with the information necessary to accomplish its mission. The GCCS provides a fused and shared picture of the battlespace through its common operating picture/common tactical picture function. The GCCS also supports readiness assessment and reporting by the Services. The GCCS replaced the Worldwide Military Command and Control System (WWMCCS) and is designed to resolve joint command and control interoperability issues by evolving incompatible, Service-specific command and control programs into a single integrated command and control system.

The GCCS employs a client-server architecture that uses both commercial and government-developed software. Through a DOD-mandated migration strategy, the GCCS will reduce the large number of information systems in use today. The GCCS is evolving from a baseline of existing or “legacy” command and control systems. As new GCCS versions are subsequently fielded, existing legacy systems will be replaced. The common functional, physical, and operational characteristics of the GCCS are based on a single COE—the DII COE. All future joint and Service/CINC-specific command and control systems must be compatible with this COE. The goal is to achieve a fully integrated, single GCCS in which all command and control functions are provided through GCCS application programs that have a common look and feel. The DII COE provides a standard environment, off-the-shelf software and a set of programming standards that describe in detail how mission applications will operate in the standard environment. Each mission application that is migrated to the common environment must comply with DII COE standards.

The first mission applications to be incorporated into the GCCS were mission-essential functions that were previously part of the WWMCCS, including JOPES and the Status of Resources and Training System (SORTS). The GCCS also includes the infrastructure that supports sharing, displaying, and exchanging information and a common operating picture/common tactical picture. The GCCS infrastructure consists of UNIX-based servers and client terminals as well as personal computer (PC) workstations operating on a standardized LAN. The GCCS infrastructure supports data transfer among workstations and servers. Connectivity between GCCS nodes is provided by the Secret Internet Protocol Router Network (SIPRNET), which is the secret layer of the DISN. (See paragraph 6003.)

b. Marine Air-Ground Task Force C4I. MAGTF C4I is the concept for the integration of Marine Corps tactical information systems and the migration of selected "legacy" systems to the DII COE. The MAGTF C4I concept is consistent with DOD mandates for DII compliance and designation of standard migration systems. MAGTF C4I is designed to support commanders and their staffs at all levels of the MAGTF. The MAGTF C4I migration strategy focuses on incorporating the software functionality of MAGTF tactical information systems into a MAGTF software baseline (MSBL). Standard software mission applications and the capability to support MAGTF command and control functions will be developed under the MSBL. The MSBL relies on the DII COE for its common software environment. This software environment, in addition to providing operating systems and application interfaces, provides users with common commercial-off-the-shelf (COTS) applications, including Microsoft Office, Web browsers, and e-mail.

The DII COE is currently UNIX oriented. TCO and IAS have already been transitioned to operate in this environment, and TCO and IAS UNIX servers and workstations have been fielded—in some instances down to the regimental level. However, with some limited exceptions, the Marine Corps will no longer migrate legacy systems to the UNIX operating system or support enhancement of UNIX-based applications. Future development of Marine Corps C4I systems will focus on developing and fielding applications supported by Windows NT. UNIX-based systems have proven to be too expensive and complex to operate and maintain. The Marine Corps has initiated a program, Command and Control Personal Computer (C2PC), to migrate to a PC-oriented environment. An interim architecture consisting of UNIX servers and client PCs will be employed, with development effort centered on Marine Corps-unique requirements hosted on PCs. The first two applications to be transitioned to the PC client environment were TCO and IAS. To support these applications, three laptop computers—intelligence/operations workstations—are being fielded at the battalion/squadron level. Two workstations will be configured as TCO workstations and the other as an IAS workstation. The Marine Corps will act as the lead Service in refining the PC COE for the DII, culminating eventually in an architecture that uses PCs for both clients and servers. Key MAGTF information systems that support command and control are described below. The system descriptions focus on operational employment by functional area.

(1) Maneuver. Information systems support maneuver by assisting commanders and staffs with shared situational awareness based on an integrated picture of the battlespace. This common picture is developed through the collection, processing, integration, and analysis of data from all functional areas. Through the common operating picture/common tactical picture, the commander and his staff gain an understanding of the situation and act on that understanding. Information systems support the planning process by facilitating the sharing of the commander's intent, the analysis of courses of action, and the development and dissemination of OPLANs and OPORDs. Information systems then enable the commander and his staff to monitor execution, assess results, and act based on the changed situation.

The TCO system is the primary information system supporting maneuver. As discussed above, TCO has been incorporated into the MSBL and operates under the DII COE and in a PC

client environment. TCO processes tactical information from the GCCS track database manager (a UNIX server) to form a common operating picture/common tactical picture. Future enhancements to TCO will provide automated support for the development of courses of action and the preparation and dissemination of OPLANs and OPORDs, including overlays that are geographically referenced to an electronic map.

TCO supports the operations sections of all MAGTF units of battalion/squadron size and larger as well as planning sections at the MEF level. TCO consists of computer workstations operating at the secret level on multiple LANs interconnected on the SIPRNET through MAGTF communications networks. The functional manager for TCO is the G-3/S-3, and operations section personnel are responsible for setting up the TCO equipment in the COC. Communications and information systems personnel are responsible for connecting TCO terminals to the SIPRNET, providing them with IP network host addresses, and assisting the operations section in installing and maintaining the TCO.

Navy shipboard mission applications have been developed for operation in the same UNIX client-server COE as have the Marine Corps' TCO and IAS. This permits embarked MAGTFs to "plug in" TCO and IAS to the shipboard client-server environment. Furthermore, like the Marine Corps, the Navy is currently rehosting some of these mission applications to a PC client environment. The Navy goal is the same as the Marine Corps goal—to transition to an all-PC client-server environment.

(2) Intelligence. Intelligence systems support the timely planning and direction, collection, processing and exploitation, production, dissemination, and use of all-source intelligence. IAS is the principal Marine Corps intelligence information system. IAS provides MAGTF intelligence personnel with intelligence operations planning and direction, all-source processing and fusion, and dissemination capabilities. The G-2/S-2 is the functional manager for IAS, and intelligence personnel are responsible for setting up and employing IAS equipment in their intelligence centers. MEF IAS is a sheltered, mobile system with multiple (scaleable) analyst workstations in a UNIX-based client-server LAN configuration. IAS suites for intermediate commands are configured in a four-workstation LAN. At the battalion/squadron level, a single intelligence/operations workstation with software developed as part of C2PC will provide IAS capability. IAS will host or integrate with a variety of MAGTF intelligence systems, to include:

wSignals Intelligence (SIGINT) -technical control and analysis center (TCAC)

wImagery intelligence (IMINT)-tactical exploitation group (TEG), SIDS
CI/HUMINT-CHATS
wMeasurement and signature intelligence (MASINT)- tactical remote sensor systems (TRSS)

wGeographic intelligence (GEOINT)-topographic set (TOPOSET), topographic protection capability (TPC)

Additionally, it will be interoperable with other intelligence systems at the national, theater,joint, and other services levels.

(3) Air Operations. The MACCS provides the tactical air commander with the automated support required to exercise control over MAGTF air operations. The MACCS supports both tactical air command and the control of aircraft and missiles. The control of aircraft and missiles is a highly specialized function addressed in MCWP 3-25 and the MCWP 3-25.1 through 3-25.12 series. As discussed in paragraph 3003.d., MACG personnel support the installation, operation, and maintenance of the MACCS. The MWCS provides communications and information systems connectivity.

Tactical air command systems provide the tactical air commander with support for planning, controlling, and coordinating overall MAGTF air operations through the execution of the air tasking cycle. Functions supported include determination of operational requirements, allocation of aircraft, processing of ATOs and airspace coordination orders (ACOs), planning and monitoring of air operations, and coordination with naval and joint agencies. The Contingency Theater Automated Planning System (CTAPS), an Air Force-developed legacy system supporting tactical air command, is used to create and disseminate the ATO. CTAPS runs at the secret level on UNIX-based Marine common hardware suite (MCHS) servers on the TACC LAN. The MWCS provides each CTAPS workstation with an IP host address and connects the TACC LAN to remote airfields, the DASC, the TAOC, and other-Service command centers over the SIPRNET by using IP routers and organic transmission assets. CTAPS capabilities will migrate to the DII COE.

a. Theater Battle Management Corps Systems

Theater battle management corps systems (TBMCS) is a battle management system used for planning and executing air operations. TBMCS provides a complete tool kit to manage and plan the overall war and the daily air war. TBMCS is an Air Force-developed program formed by the consolidation of several existing segments—CTAPS, combat intelligence system (CIS), and the wing command and control system (WCCS). CTAPS is used to plan and execute air operations. CIS is used to optimize component and unit-level intelligence functions and to provide the warfighter with the most accurate and timely intelligence data available. WCCS is an Air Force application used to provide a secure, accurate, timely, and automated system affording a composite view of command and control information for wing commanders and their battlestaffs. WCCS supports effective decisionmaking during exercises and operational contingencies. These systems implement a consistent software architecture which integrates the flow of information among them. TBMCS will be a joint system that can be used to—

wBuild the target nomination list (TNL), the air battle plan (ABP), and the air tasking order (ATO).

wMonitor the execution of the air battle and replans, as required.

wPlan routes, ensure that the airspace deconfliction.

wBuild the airspace control order.

wProvide weather support.
wManage resources (e.g., aircraft, weapons, fuel, logistics).
wGather information on the enemy, battle results, and friendly forces.
wAnalyze information to determine strategies and constraints.
wIdentify potential targets and propose an optimal weapons mix.
wProvide for support and protection of ground forces.
wPlan countermeasures and frequency assignments.

The Marine Corps will purchase only the CTAPS equivalent functionality and the targeting and weaponeering module (TWM) (the follow-on to RAAP) within CIS. The WCCS segment will not be used by the Marine Corps.

(4) Fire Support. The Initial Fire Support Automation System (IFSAS) provides automated support for technical artillery fire control and limited automated support for fire planning and tactical fire direction. The IFSAS is an interim system designed to meet the basic requirements for automation of fire support functions. IFSAS is to be replaced by the Army-developed Advanced Field Artillery Tactical Data System (AFATDS). AFATDS will complete the transition to fully automated support of fire planning, tactical and technical fire direction, and fire support coordination. The IFSAS is employed at FDCs down through the firing battery level, at FSCCs down through the battalion level, at the SACC, and by the MAGTF CE. The two components to the IFSAS are the fire control system and the battery computer terminal. The IFSAS is supported by dedicated fire support communications nets that are capable of transmitting data such as fire support requests by either voice or digital message.

(5) Logistics. MAGTF logisticians employ information systems to plan, coordinate, and direct logistic operations and to maintain visibility of logistic status. Currently fielded logistic information systems include the Asset Tracking Logistics and Supply System (ATLASS) and the MAGTF II/Logistics Automated Information System (LOGAIS) family of systems. The MAGTF II/LOGAIS family of systems includes MAGTF II, the MAGTF Deployment Support System (MDSS) II, the Computer-Aided Embarkation Management System (CAEMS), and the Transportation Coordinator's Automated Information for Movement System (TC-AIMS).

- ATLASS provides automated support for supply and maintenance. It is replacing two mainframe-based systems, the Marine Corps Integrated Maintenance Management System (MIMMS) and the Supported Activities Supply System (SASSY), with a client-server system running on PCs. ATLASS is being implemented through phased development, with the current phase focusing on integrating user-unit supply and shop-level maintenance functions.

- MAGTF II is a system that allows MAGTF planners to select and tailor MAGTF force structures, estimate sustainment, and estimate airlift requirements for plan feasibility analysis. MAGTF II serves as the bridge between the MAGTF II/LOGAIS family of systems and

JOPES, permitting MAGTF commanders to submit TPFDD refinements to JOPES. Additionally, MAGTF II has the capability to download plans from JOPES. MAGTF II runs on PCs. It includes TC-AIMS and MDSS II. (TC-AIMS II, a joint system, will eventually replace TC-AIMS and MDSS II. TC-AIMS and ATLASS will be the primary systems to provide functional logistic management for sustainment and distribution.

- TC-AIMS provides the MAGTF commander and staff with an automated capability to plan, coordinate, manage, and execute MAGTF movement from the point of origin to the air and sea port of embarkation and from the port of debarkation to the final destination. TC-AIMS runs on PCs.

- MDSS II enables planners at various echelons of a MAGTF to build and maintain a database that contains force and equipment data reflecting how a MAGTF is configured for deployment. This data can be updated during plan development and execution. Extracted MDSS II data is passed through MAGTF II to JOPES to provide an accurate picture of MAGTF composition, including the lift requirement. MDSS II runs on PCs.

- CAEMS is an interactive database/graphics tool for producing amphibious, maritime prepositioning force, and Military Sealift Command ship load plans and associated reports. CAEMS employs linked computer-aided design (CAD) and database systems to recognize ship and cargo characteristics, to conduct cargo loading and offloading flowpath analysis, to allocate cargoes to stowage spaces, and to ensure that stowage compatibility requirements are met. Additionally, CAEMS provides input to trim, stability, and stress calculations and produces accurate "as-loaded" ship load plans and reports. During the planning and execution phases of an operation, CAEMS updates MDSS II. CAEMS runs on PCs.

c. Communications and Information Systems. The Systems Planning, Engineering, and Evaluation Device (SPEED), with its associated software, is the primary information system supporting the planning and employment of MAGTF communications and information systems. SPEED provides the Marine Corps with the capability to rapidly engineer tactical communications systems by using automated radio propagation and network planning tools on a PC-based system. SPEED can also be used to evaluate system performance before installation. SPEED supports radio path profiling and area coverage analysis, high frequency (HF) propagation analysis, PLRS network planning (line of sight and position location information studies), and unit level circuit switch (ULCS) network planning. SPEED incorporates the Revised Battlefield Electronic Communications-Electronics Operating Instruction System (RBECS), which is the software required to operate the Single-Channel Ground and Airborne Radio System (SINCGARS) in a frequency hopping mode. SPEED is fielded down to the infantry regiment level with a database that includes the technical profiles of communications-electronics equipment and a set of Defense Mapping Agency digital terrain maps.

6003. Communications Networks. DISA is responsible for implementing, as the information transfer segment of the DII, a single, integrated, common-user, global communications network. This network,

the DISN, will provide support for the exchange of voice, data, imagery, and video from strategic to tactical levels, at all echelons, in garrison or when deployed. The DOD and the Services are implementing the DISN in an evolutionary manner by interfacing and integrating existing communications networks and making maximum use of commercial services and standards. The Marine Corps has combined its private enterprise network, the Marine Corps Enterprise Network, with the DISN. Just as the GCCS and the DII COE are shaping the development of MAGTF information systems, DISN implementation is shaping the MAGTF communications architecture. For the near term, the communications networks supporting the MAGTF will include the current MAGTF tactical communications networks: the Tri-Service Tactical Communications Program (TRI-TAC) switched backbone, single-channel radio, LANs, and special-purpose networks with an interface to the DISN for long-haul communications.[1] However, change is occurring rapidly with the introduction of IP router-based data communications systems and equipment augmenting the switched backbone and providing enhanced connectivity among tactical networks and between tactical networks and the DISN. As discussed in chapter 5, it is these IP router-based systems, combined with COTS software, that allow the MAGTF to establish an intranet. That intranet rides on the communications backbone provided by the MAGTF communications architecture and the data communications overlay provided by the Tactical Data Network (TDN). The MAGTF intranet represents a de facto MAGTF command and control system and should be designed and employed based on a well-thought-out information management plan.

a. Defense Information Systems Network. The DISN is evolving toward a single, integrated telecommunications infrastructure that is capable of providing end-to-end communications connectivity in support of military operations worldwide. Ongoing efforts include upgrades to switching and transmission centers around the world and consolidation and integration of satellite and terrestrial communications networks. The DISN currently provides long-haul, common-user, dedicated, secure and nonsecure, voice, data, and video service through a mix of both DOD-dedicated and standard commercial communications services. The DISN provides the communications backbone for DOD-wide subnetworks, including the Defense Switched Network (DSN), the Secure Voice System, the Defense Data Transport Network (Unclassified but Sensitive Internet Protocol Router Network (NIPRNET) and SIPRNET), and the Joint Worldwide Intelligence Communications System (JWICS), as well as separate systems and networks serving the CINCs, Services, and agencies. Deployed forces access the DISN through 14 DISA standard tactical entry points (STEPs). MAGTFs use these STEP sites for access to the DISN to conduct training, exercises, and operations. When ashore, the primary means available to the MAGTF to access the STEP sites is through ground mobile forces tactical satellite (TACSAT) communications over the Defense Satellite Communications System (DSCS). Shipboard access is provided through the Navy Tactical Network. Five entry points with Navy-unique configurations are located at Naval Computer and Telecommunications Area Master Stations (NCTAMSs) to provide both ship-to-shore and ship-to-ship communications.

[1] The TRI-TAC program and systems are described later in this chapter and in more detail in the CJCSM 6231 series of publications.

b. Defense Information Systems Network Services. The services provided to the deployed MAGTF through the DISN STEP include voice, data, and video. Voice services consist of the DSN and, for secure voice, the Defense Red Switch Network. Depending on classification, data communications services are provided through the NIPRNET, SIPRNET, and JWICS. Services include VTC.

(1) Defense Switched Network. Each STEP provides one T1 (1.544 Mbps) circuit supporting 44 interswitch trunks to a DSN multifunction switch. These 32-kbps interswitch trunks allow tactical users to place either nonsecure or secure telephone unit III (STU-III) calls to a DSN subscriber.

(2) Defense Red Switch Network. A single STEP accommodates up to four 56-kbps circuits to the Defense Red Switch Network switch. Each circuit provides two interswitch trunks between the tactical and Defense Red Switch Network switches. These eight interswitch trunks allow tactical users to place secure red switch calls from the field.

(3) Unclassified but Sensitive Internet Protocol Router Network. NIPRNET is an information network that is based on IP routers and Integrated Digital Network Exchange (IDNX) smart multiplexers. NIPRNET is designed for sensitive but unclassified information transfer. It supports unclassified networks such as the Marine Corps Data Network and the Tactical Automated Weather Distribution System. Under the Integrated Tactical-Strategic Data Network (ITSDN) program, 10 of the 14 STEP sites were configured with NIPRNET routers. MAGTFs use the NIPRNET in garrison and when deployed, both aboard ship and during operations ashore, to transfer administrative data.

(4) Secure Internet Protocol Router Network. SIPRNET is an information network based on IP routers and IDNX smart multiplexers and designed for exchange of classified information up to and including the secret level. It supports the exchange of classified data between the GCCS, Defense Message System (DMS), CTAPS, TCO, IAS, and other tactical information systems. SIPRNET routers are collocated with NIPRNET routers at 10 STEP sites. MAGTFs use the SIPRNET in garrison and when deployed, both aboard ship and during operations ashore, to transfer operational data.

(5) Joint Worldwide Intelligence Communications System. JWICS is an information network based on both IDNX smart multiplexers and IP routers. It is designed for exchange of SCI-level video and data information. It supports the MAGTF's use of Intelligence Link (INTELINK) and other services such as those accessed by using JDISS and TCAC. MAGTFs use JWICS in garrison and when deployed, both aboard ship and during operations ashore, to exchange SCI data.

(6) Video Teleconferencing. VTC is used at higher echelons with increasing frequency. When deployed, it is primarily used for MAGTF-to-component/JTF/CINC coordination. Currently,

VTC supports only point-to-point conferencing. In the future, multipoint conferencing will be supported as well.

(7) Defense Message System. The DMS is a DOD-mandated program that is replacing the AUTODIN system with a common e-mail system (Microsoft Exchange) throughout the DOD. DMS will be used to send all organizational message (record) traffic over the DISN IP router-based networks. DMS is based on COTS hardware/software products. The Marine Corps DMS implementation plan includes the establishment of local control centers for DMS management, operation, and maintenance services. These local control centers will connect with DISA regional nodes, regional operations and security centers, and a global control center. DMS will first be implemented in the garrison environment and then in the tactical environment; AUTODIN is to be shut down upon completion of the transition to DMS. DMS for tactical users will be implemented in conjunction with the fielding of the TDN. DMS software will be hosted on TDN gateways and servers.

c. Marine Corps Enterprise Network. The USMC network operations center (NOC) provides centralized management of Marine Corps communications and information systems employment through the Marine Corps Enterprise Network. The Marine Corps has combined the Marine Corps Enterprise Network with the DISN to form a single integrated internetwork. The Marine Corps operational commands and bases/stations have direct access to the DISN and its subnetworks, including SIPRNET and NIPRNET, via the Marine Corps Enterprise Network. The Marine Corps Enterprise Network provides network management and support through four mutually supporting echelons:

- The information systems coordinator is the LAN administrator for the unit. The information systems coordinator serves as the first echelon of network support in all operating environments, both garrison and deployed. Technical problems beyond the scope of the information systems coordinator's capabilities must be referred to the second echelon of support.

- The LAN manager serves as the second echelon of network support. The LAN manager is normally located within the G-6 at an operational command or the information technology division at a base or station. The LAN manager is responsible for all LANs operating within subordinate and/or tenant organizations and units. The LAN manager is specifically tasked with providing technical support and guidance to information systems coordinators under his OPCON regardless of their location (i.e., garrison or deployed). Technical problems beyond the scope of the LAN manager's capabilities must be referred to the third echelon of support.

- The base or station network control center provides third echelon network support to LAN managers of tenant commands and organizations within the physical confines of a Marine Corps base or air station. The base network control center or station network control center serves as the NIPRNET and SIPRNET access point to the DISN for all commands on the base or air station. Each base network control center or station network control center provides technical guidance and support to LAN managers within its geographic area of responsibility. Technical

problems beyond the scope of the base network control center's or station network control center's capabilities must be referred to the fourth echelon of support. (Deployed organizations not located within the geographic area of responsibility of a base network control center or station network control center will receive third echelon support from the fourth echelon.)

- The USMC NOC serves as the fourth and last echelon of network support within the Marine Corps. The USMC NOC is the DISA-designated Service local control center. The USMC NOC, located at Quantico, acts as the systems sponsor for all elements of the Marine Corps Enterprise Network infrastructure. To ensure seamless, secure, end-to-end Marine Corps Enterprise Network connectivity, the USMC NOC centrally manages and controls the network architecture down to, and including, the NIPRNET/SIPRNET point-of-presence (POP) router. Centralized management includes maintaining standard configurations of POP routers, firewalls, intrusion detection devices, screening routers, and gateway network encryption systems.

Third and fourth echelon network support for deployed units may be provided either by the USMC NOC or by a joint or Navy network control agency. These procedures are still evolving. A number of network management issues are involved (i.e., effecting a communications shift when switching between NCTAMS or when the MAGTF transitions from ship to shore). While afloat, MAGTFs will be supported by the ship's technical communications center with reachback to the Navy NOC or NCTAMS site. When a MAGTF is deployed as part of a JTF, a joint communications control center (JCCC) will provide network management throughout the JTF area of responsibility. The USMC NOC has established a deployed support section. The mission of the deployed support section is to provide network technical advice and assistance during the planning phase of an operation/exercise/deployment and coordinate the timely resolution of networking problems during the execution phase. It works in partnership with Marine Corps PHIBRON communications detachments, the Fleet Marine Force support division of the Marine Corps Tactical Systems Support Activity (MCTSSA), and the MEFs to provide coordinated support to deploying MEUs.

d. Marine Air-Ground Task Force Communications Architecture. The design of the communications architecture to support a MAGTF is based on the nature of the operation, the commander's intent, the concept of operations, and the composition and task organization of the MAGTF as well as that of attached and supporting forces. In the early stages of an operation, single-channel radio normally provides the principal means of communications. As the operation evolves, LANs and a switched backbone are established to meet the information transfer requirements of command and control at higher echelons and to provide connectivity to the DISN. Maneuver battalions continue to depend on single-channel radio throughout the operation with limited interfaces to the switched backbone. Special-purpose systems provide dedicated communications support for certain functions, such as position location and navigation and air defense. The MAGTF communications architecture may be viewed as four subnetworks that will interface with one another through the TDN. Figure 6-1 depicts these four networks—single-channel radio, the switched backbone, LANs, and special-purpose systems. Each of these networks and the TDN are briefly described below. This overview is designed to give all Marines who use tactical communications an understanding of the capabilities and limitations of

these networks. This understanding will help to ensure that operations planning takes into account the capabilities and limitations of MAGTF communications networks. For a more detailed discussion of the MAGTF communications architecture, readers should refer to chapter 4 of MCWP 6-22, *Communications and Information Systems*.

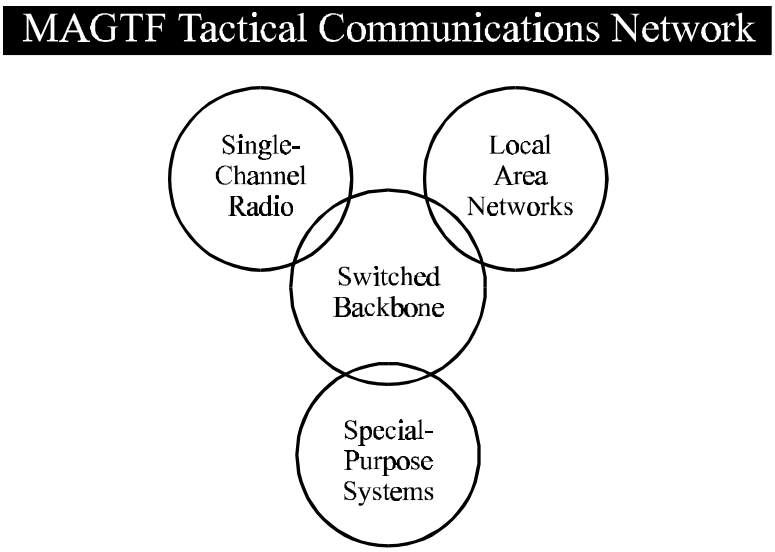

Figure 6-1. Marine Air-Ground Task Force Communications Architecture

(1) Single-Channel Radio. MAGTF single-channel radio equipment includes hand-held, manpack, vehicle-mounted, ground-mounted, and shelterized radios operating in the HF, very high frequency (VHF), and ultrahigh frequency (UHF) bands. It also includes TACSAT radios in the UHF band. The most widely employed tactical radios—the SINCGARS family—provide both built-in COMSEC and electronic counter-countermeasures (ECCM) capabilities. Single-channel radio equipment is easy to operate, and single-channel radio networks are easily established, rapidly reconfigured, and, most importantly, easily maintained on the move. Consequently, single-channel radio networks provide the principal means of communications support for maneuver units. Single-channel radio provides secure voice and data communications capability. However, data transfer rates—commonly referred to as bandwidth—are limited. Furthermore, single-channel radio in the VHF and UHF bands is normally limited to line-of-sight ranges. In the HF band, single-channel radio can support long-range communications, but not while on the move. Single-channel radio TACSAT communications combine mobility, flexibility, and ease of operation with unlimited range. However, TACSAT communications are restricted by the limited availability of satellite frequencies and channels. In addition to a limited capability to support data transfer, other limitations of single-channel radio networks include vulnerability to enemy electronic warfare, susceptibility to interference, and limited spectrum availability. As a result of its limited availability, the MAGTF employs TACSAT primarily in support of critical, long-range communications requirements (e.g., communications support for deep reconnaissance

operations or ship-to-shore connectivity to the tactical echelon of a MEU(SOC) when deployed ashore).

(2) Switched Backbone. The MAGTF switched backbone consists of switching, routing, and wideband transmission systems that provide a high-capacity communications backbone for the MAGTF as well as connectivity with the DISN. It is the tactical equivalent of commercial local and long-distance networks and, in some situations, interfaces with and uses those commercial networks. The switched backbone uses a mix of older equipment developed under the TRI-TAC program and newer equipment and technology.[2] The switched backbone is tailored to meet the requirements of a particular operation and has the flexibility to adapt to support the unfolding tactical situation and overall scheme of maneuver. Planning, redesign, and adaptation are continuous as switched backbone equipment and personnel arrive in theater and the MAGTF transitions to operations ashore. Larger headquarters, rear areas, expeditionary airfields, and command and control centers at higher echelons are the principal subscribers to the switched backbone. Maneuver battalions cannot be constrained by the inherent lack of mobility of the switched backbone and normally link to it through a single-channel radio interface. The MAGTF switched backbone includes switches, IP routers, and wideband multichannel radio transmission systems.

- **Switches.** Switches provide the means to route traffic through a communications network. The three basic categories of switches are circuit, message, and packet. Circuit switches generally support telephone traffic, message switches process formatted messages for storage and delivery, and packet switches process data into packets for transmission and then reassemble the packets at the other end. The Marine Corps achieves a packet switching capability through the use of IP routers.

- **Internet Protocol Routers.** The proliferation of information systems in the modern battlespace is driving an increased demand for data communications. Although circuit switches and message switches can support data communications, packet switching is far more efficient. The Marine Corps has developed a packet switching capability through the use of commercial IP routers. The IP used with these routers provides for transmitting blocks of data called datagrams from sources to destinations, where sources and destinations are identified by fixed-length addresses (IP addresses). The router reads the network address of all data packets and forwards them to the addressee via the best available communications path. These IP routers form a data communications overlay on the switched backbone and serve as gateways to the IP router networks of the other Services, the JTF, and the DISN IP router networks: JWICS, SIPRNET, and NIPRNET. IP routers are an integral part of the TDN gateways and servers described below.

[2] The TRI-TAC family of equipment was developed in the 1970s under a joint program by the Marine Corps, Air Force, and Army. TRI-TAC equipment, which was fielded beginning in the mid-1980s, provides the major components of the MAGTF switched backbone. This equipment was developed to provide interoperable, secure, and deployable voice and data digital switching and transmission systems for tactical forces operating in a joint environment.

- **Multichannel Radio.** Multichannel radio provides the communications links for the switched backbone. It permits multiple users to access a single communications path. Multichannel radio includes both terrestrial and TACSAT radios. Multichannel radio provides worldwide connectivity through links to the DISN as well as the links for long-distance communications within the theater and within the MAGTF. Multichannel radio provides reliable, flexible, and high-capacity transmission paths for both voice and data communications. Its primary disadvantages are complexity and a lack of mobility. A multichannel radio network requires more time to set up and more expertise to operate and maintain than a single-channel radio network, and it cannot operate on the move. Consequently, as discussed previously, maneuvering elements will rely primarily on single-channel radio. Multichannel radio will be employed only down to the infantry regiment and artillery battalion levels in the GCE.

(3) Local Area Networks. LANs are data communications networks that are designed to support information exchange, collaboration, and resource sharing in a particular unit, agency, facility, center, or cell in a confined geographic area. Because of the limited distances involved, LANs can support high data throughput—up to 100 Mbps, although 10 Mbps is more common. LANs include terminal equipment connected to a transmission medium such as wire or fiber-optic cable. LAN media used in the MAGTF include both copper-based coaxial and twisted-pair cable used within local facilities, such as a regimental-level COC, and fiber-optic cable used as a higher speed backbone that connects multiple facilities in a large headquarters complex. Fiber-optic backbone LANs are also used aboard Navy ships in conjunction with copper-based coaxial and twisted-pair LANs within an operational workspace such as the LFOC. MCWP 6-22 contains an extensive discussion on how specific LAN media, access methods, technologies, protocols, and equipment are employed to meet the specific requirements of a unit.

(4) Special-Purpose Systems. MAGTF special-purpose communications systems are designed to support specific functions such as position location and navigation, intelligence dissemination, and air defense.

- **Position Location Reporting System.** The PLRS provides real-time, three-dimensional position location and navigation information. PLRS also provides a limited but robust data communications capability. Through the use of PLRS, commanders can track troop locations and units can navigate with precision over any terrain. PLRS master stations are installed in the LHD-1 Wasp class of amphibious ships. This provides CATF and CLF with the capability to track both the ship-to-shore movement and subsequent operations ashore. An interface to PLRS can provide friendly ground track data to automatically update the common operating picture/common tactical picture. The Marine Corps also plans to field the Army-developed Enhanced Position Location Reporting System (EPLRS). EPLRS has a much greater data communications capability than PLRS and will be used to improve the ability to transfer data when the switched backbone is unavailable—primarily in support of the maneuver elements of the GCE.

- **Precise Lightweight Global Positioning System Receiver.** The AN/PSN-11 precise lightweight Global Positioning System (GPS) receiver (PLGR) is a small, hand-held, GPS receiver that weighs approximately three pounds. It provides precise positioning and timing solutions based on signals received from the GPS satellite constellation. It is important to understand the difference in capabilities between the PLGR and PLRS. Although the PLGR provides land navigation capability, it cannot provide the location of another unit and has no communications capability beyond the passive receipt of location and time. Consequently, the use of the PLGR to update ground tracks in the common operating picture/common tactical picture is a manual process that places a strain on tactical communications systems. Plans call for fielding a capability to automatically generate position location information messages based on data received from the GPS. This local position location information would be passed over a single-channel radio net to other locations to update the common operating picture/common tactical picture. However, given the vulnerability of the GPS to interference and jamming, GPS should be viewed as a complement to, not a replacement for, PLRS.

- **Joint Tactical Information Distribution System.** The Joint Tactical Information Distribution System (JTIDS) is an advanced radio system that provides information distribution, position location, and cooperative identification capabilities in an integrated form. The primary JTIDS role is in air defense coordination. The Marine Corps implements the JTIDS terminal in the TAOC.

- **Integrated Broadcast Services.** The joint tactical terminal, with its common Integrated Broadcast Service (IBS) module, is capable of receiving information from multiple intelligence dissemination systems. The IAS will incorporate the common IBS modules.

w **Commander's Tactical Terminal.** The commander's tactical terminal (CTT) (AN/USC-55) is a multi-Service developed special application UHF satellite receiver that can be dedicated to receiving critical, time-sensitive intelligence to commanders and intelligence centers at all echelons, in near-real-time, at general service (message) (GENSER) or SCI levels. Its receiver provides one full duplex and two receive-only channels. The planned concept of employment for CTT is similar to that of the tactical receive equipment (TRE); that is, it will be fielded widely within the MAGTF to allow access to intelligence broadcasts and intelligence collectors. Full operational capability for CTT is expected by the fourth quarter of fiscal year 1998.

w **The Joint Tactical Terminal.** The joint tactical terminal (JTT), with its common IBS modules, is capable of receiving diverse broadcasts into terminals with common capabilities. These terminals use multiple transmission paths and sound information management to provide the ability for each user in the battlespace to view a common operational picture/common tactical picture. The modular feature of these terminals allows producers and users in the MAGTF to incorporate IBS into their existing information systems.

Hardware and software existing in the MAGTF (IAS, TCO, ACE systems, etc.) can integrate the common IBS modules that add the required capability. Alternatively, users may also obtain completely configured tactical terminals. Employment of JTT/common IBS modules facilitates a seamless transition from current dissemination systems to the IBS without degrading the capabilities provided by the current systems.

- **TROJAN SPIRIT II**. TROJAN SPIRIT II is a mobile, super high frequency (SHF) satellite communications (SATCOM) system that is capable of receiving, transmitting, and processing multimedia products, including imagery and secure dial-up voice, data, facsimile, and video. TROJAN SPIRIT II will be deployed to provide GENSER and SCI communications for intelligence operations. TROJAN SPIRIT II supports two separate LANs (SCI and collateral secret) and provides entry to the SIPRNET and the JWICS.

(5) Tactical Data Network. The Marine Corps is in the process of replacing interim, locally configured IP router-based data communications packages with the TDN. The TDN will augment the existing MAGTF communications infrastructure to provide an integrated data network—the MAGTF intranet. The TDN will connect the subnetworks of the MAGTF communications architecture and extend the MAGTF intranet down to battalion level. The data network established through the TDN will form the communications backbone for MAGTF information systems and the DMS. The TDN will consist of a network of gateways and servers interconnected with one another and their subscribers via a combination of common-user long-haul transmission systems, LANs, single-channel radios, and the switched telephone system. This network will provide its subscribers with basic data transfer and switching services; access to strategic, supporting establishment, joint, and other-Service component TDNs; network management capabilities; and value-added services such as message handling, directory services, file sharing, and terminal emulation support. A gateway will be mounted on a heavy-variant HMMWV, and servers will be mounted in three transit cases, each of which is man portable. Gateways will be employed at the MEF and MSCs, and servers will be fielded down to battalion/squadron level.

6004. Summary. MAGTF communications and information systems are designed to support the command and control requirements of the MAGTF on the expeditionary battlefield without adversely affecting the freedom of action or mobility of the MAGTF. These communications and information systems provide MAGTF commanders and their staffs with reliable, flexible, and responsive tools to rapidly collect, process, analyze, exchange, and disseminate information in support of operations planning and execution. The systems make available the information needed, when it is needed, wherever it is needed on the battlefield.

Chapter 7

Information Management

7001. Information and Command and Control. More than 2,500 years ago, Sun Tzu made a simple, yet elegant, observation on the importance of information in the battlespace. In his words, "If you know the enemy and know yourself, you need not fear the result of a hundred battles." Although judgment, experience, and vision are all key factors in effective combat decisionmaking, perhaps the single most important factor is situational awareness. Awareness and understanding of the operational environment allow the commander to anticipate future conditions, formulate concepts of operations, analyze courses of action, and accurately assess risks. This awareness and understanding can be obtained only through collecting, processing, analyzing, and assessing information.

Without adequate situational awareness, even the finest military mind is hamstrung. General Lee made the decision to decisively engage the Union army at Gettysburg with next to no information about the disposition of the Union forces—a decision that led to disaster for the Army of Northern Virginia and the Confederacy. Modern reconnaissance and intelligence capabilities combine with advances in information technology and communications to make massive amounts of information available to MAGTF commanders. However, the availability of large amounts of information does not, in and of itself, lead to situational awareness. For example, in Beirut in 1983, the 24th Marine Amphibious Unit was inundated with information. In this instance, too much information hindered rather than helped and, quite possibly, contributed to the disaster.

Situational awareness information supports the orientation and decision phases of the command and control process. A second equally important role of information is in the execution phase of the command and control process: Information provides the means of conveying the commander's intent and coordinating actions in execution of the plan. Information is, in a sense, the raw material that fuels the entire command and control process. The commander's ability to exercise command and control depends on his and his staff's ability to manage that information. Success in the modern battlespace requires that commanders and their staffs understand the complexity of information management and become effective information managers.

a. Information Theory. The term information is defined in Joint Pub 1-02 as "facts, data, or instructions in any medium or form" or, alternatively, "the meaning that a human assigns to data by means of the known conventions used in their representation." It is important to understand that the term information, in its broadest sense, includes everything from raw data to data that has been extensively analyzed and processed. Ultimately, study and analysis of information leads to an understanding of the situation, that is, situational awareness. Both Navy Doctrine Publication (NDP) 6, *Naval Command and Control*, and MCDP 6 describe a four-step cognitive process by which raw data is transformed to gain situational awareness.[1] Figure 7-1 depicts these four steps, which may be viewed as defining an information hierarchy.

[1] This model of the cognitive process is based on Jeffrey R. Cooper's unpublished paper, "The Coherent

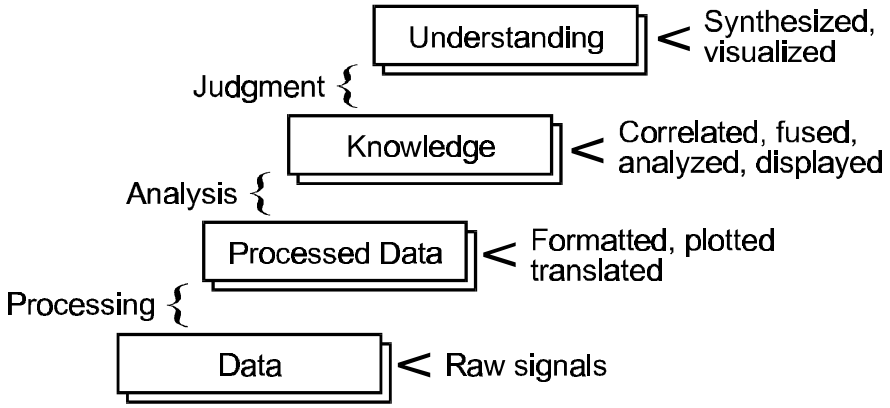

Figure 7-1. Information Hierarchy

The first step in the cognitive process is to collect raw data. This raw data can take many forms—radar signals, intercepted radio signals, meteorological data from a weather balloon, or even bar-coded logistic data scanned from the side of a container. This data may be transmitted in either analog or digital format over communications media or sent by messenger. Whatever the form or method of collection and transmission, to be useful, this raw data must be processed into a form that is understandable to the ultimate user.

After data is collected, it must be processed. Examples of processing data include decoding and translating intercepted communications, filtering and correlating sensor returns, developing film, and a wide range of other activities. Processing includes placing information into a form that can be readily interpreted. Some information will come to the MAGTF in processed form and will not require further processing. Once data has been processed, it may have immediate value for Marines in close contact with the enemy. Such information is known as *combat information*. Combat information is usually extremely perishable and must be disseminated to using units as rapidly as possible.

The next step in the cognitive process is to analyze and evaluate the information that has been collected and processed. Through analysis and evaluation comes the knowledge required to support decisionmaking. For example, the analysis of intelligence information provides a picture of the enemy situation. (Although some part of that picture may have been provided by combat information, analysis and evaluation provide a more accurate and complete picture of the enemy situation.)

The last step in the process is the development of an understanding of the situation on the basis of the information available. Understanding is the result of applying human judgment based on

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Battlefield—Removing the 'Fog of War,'" SRS Technologies, 9 June 1993.

individual experience, expertise, and intuition to gain a full appreciation of the battlespace. This understanding is what we call situational awareness, and it provides a sound basis for operational decisions. Situational awareness allows the commander to anticipate events and to uncover critical vulnerabilities for exploitation. As we strive to gain an understanding of the situation, however, we must recognize that time is working against us. We may not be able to gain complete situational awareness before acting. Developing situational awareness with limited and uncertain information under severe time constraints is the fundamental challenge of command and control.

b. Information Quality. To be of value in the command and control process, information must possess certain qualities. Having information that is lacking in one or more of these qualities may, in fact, be worse than having no information at all. The following criteria may be used to asses the value of information:

- **Relevance.** Information must apply to the mission, task, or situation. Exhaustive information provided without filtering often detracts from, rather than enhances, the commander's ability to make timely, effective decisions. Furthermore, the transmission and processing of exhaustive information ties up communications and information systems.

- **Timeliness.** Information must be available at the appropriate place and time to be useful. Information management procedures and techniques must ensure the timely, unimpeded flow of relevant information. Well-planned and well-implemented communications and information systems; clearly identified information requirements; effective collection, reporting, and dissemination; and decisiveness by commanders and staffs all contribute to timely information.

- **Accuracy.** Information must be as accurate as possible. Although information systems can collect, transport, process, disseminate, and display information, Marines must still evaluate the information and make decisions as to its accuracy, timeliness, and relevance.

- **Completeness.** Information may be useful only when it is complete. However, by the time complete information is obtained, it may no longer be timely. If subordinates are aware of the commander's intent and critical information requirements, they can provide only those pieces of information that are needed.

- **Objectivity.** Information must be provided in the most undistorted, factual, and unbiased way possible. Any assumptions or interpretations should be highlighted.

- **Usability.** The display or presentation of information to the user must be understandable and useful. Standard, clearly understandable information formats, symbols, and terms should be used to exchange and present information. Information exchanged and presented in nonstandard form causes delays in interpretation and is more easily misunderstood, thereby leading to longer decision and execution cycles and, ultimately, to less reliable decisions.

The above criteria are by no means all inclusive, nor are they of equal importance. Although irrelevant information is worse than no information, inaccurate information can be disastrous, especially if the inaccuracy is the result of an enemy deception. Furthermore, the criteria are not independent. For example, the search for completeness may render the information untimely. In weighing the value of information, remember that having incomplete information is better than having no information, having untimely or unusable information is the same as having no information, and having irrelevant or inaccurate information is worse than having no information.

Commanders make decisions on the basis of their understanding of the situation. That understanding is always clouded by what MCDP-1 refers to as the "fog of war." The term fog refers to the confusion and uncertainty that is inherent in any battlespace. This fog makes it impossible for the commander to be sure that his visualization of the situation is correct. Much of the effort to improve command and control capabilities has been directed toward eliminating the fog of war through providing greater volumes of more accurate information. However, it is impossible to completely close the uncertainty gap. Warfare by its very nature is uncertain. Furthermore, although uncertainty can sometimes be reduced with more information, that takes time. The time required to collect and analyze more information slows our decision cycle. MCDP 6 describes this dilemma as the fundamental challenge of command and control. The commander must always balance the value of more information against the need to speed his decisionmaking process and maintain operational tempo.

Modern communications and information systems are a mixed blessing in terms of satisfying the requirement for information in the battlespace. On one hand, given the sheer volume of information to be collected and processed, automated support for processing that information and high-capacity communications for exchanging that information are necessary. On the other hand, those same information processing and communications capabilities can easily overwhelm the commander with information. Battlespace information systems and global communications networks are only a part of the answer. Intelligent application of information management techniques is required to avoid the generation of irrelevant information, prevent information overload, and focus limited resources on satisfying the most critical information requirements. The next paragraph provides an overview of how information management techniques are employed in the MAGTF; MCWP 6-23, *MAGTF Information Management*, (under development) address these issues in more depth.

7002. Information Management Techniques and Procedures. The goal of information management is to facilitate a rapid, unconstrained flow of useful information throughout an organization. Information is needed to support the development of a common situational awareness; dissemination of the commander's intent, orders, and instructions; and feedback from subordinate units. The MAGTF employs a number of information management techniques and procedures to maintain the flow and quality of information. The most important of these techniques and procedures is the identification of the CCIRs.

a. Commander's Critical Information Requirements. Only a fraction of the information that is theoretically available can be collected and processed rapidly enough to support combat

decisionmaking. The commander, therefore, identifies CCIRs to focus and direct the collection and processing of information. CCIRs are that information regarding the enemy, his own forces, and the environment that the commander deems to be critical to maintaining situational awareness, planning future activities, and making timely decisions. Designation of CCIRs reduces the volume of reported information to a manageable level and focuses efforts on obtaining relevant and timely information. CCIRs include priority intelligence requirements, friendly force information requirements, and essential elements of friendly information. Clearly defining these information requirements is one of the most difficult and important tasks of command. CCIRs not only influence the quantity and quality of information, but also have a direct impact on the workload of the staff and subordinate units.

(1) Priority Intelligence Requirements. Priority intelligence requirements are intelligence requirements associated with a decision that will affect the overall success of the command's mission. Priority intelligence requirements involve information about the enemy and the environment. Information about enemy capabilities and intentions is critical to allow commanders to anticipate and analyze possible enemy courses of action. Environmental information concerns the weather, the terrain, the local population, the local communications and transportation infrastructures, and a host of other factors that may affect the conduct of military operations. Through identification of priority intelligence requirements, commanders ensure that limited intelligence resources are directed to obtaining relevant information and producing intelligence that is essential for decisionmaking.

(2) Friendly Force Information Requirements. For a complete picture of the situation, the commander also requires information about friendly forces. Friendly force information requirements are the information that the commander needs about friendly forces to develop plans, coordinate activities, make effective decisions, and issue orders. Depending on the circumstances, information about unit location, composition, readiness, personnel status, and logistic status could become a friendly force information requirement. Just as it is essential for the commander to use priority intelligence requirements to identify his most important requirements for information on the enemy, it is essential for the commander to specify what critical friendly information he requires to support planning and execution. The commander must have timely information on the location, status, and capabilities of friendly forces. However, friendly force information requirements must be prioritized to limit and focus the reporting effort. It is easy to overburden subordinate units, as well as to overload communications networks, with requirements for nonessential information. Friendly force information requirements help commanders, staffs, and subordinate units to focus on only the information needed to support the planning, decision, execution, and assessment (PDE&A) cycle.

(3) Essential Elements of Friendly Information. Essential elements of friendly information are specific facts about friendly intentions, capabilities, and activities that are needed by adversaries to plan and execute effective operations against our forces. These essential elements of friendly information may be viewed as representing the opposing commander's priority intelligence requirements. Identification of the essential elements of friendly information is

necessary for planning effective INFOSEC, operations security (OPSEC), and other force protection operations.

b. Commander's Critical Information Requirement Management. The information manager (whose role is further discussed in the following paragraphs), operating under the oversight of the chief of staff, is responsible for implementing procedures for identifying and satisfying the CCIRs. These procedures should be incorporated into the information management plan for the unit. As a first step, the information manager, in coordination with each staff section, should identify CCIRs for approval by the commander. The identification of a CCIR includes the designation of responsibility for its satisfaction and the format for its presentation. On receipt of a mission, the CCIRs should be reviewed and modified as necessary based on the mission and situation. During the conduct of the operation, CCIRs must be continually reviewed for relevance and modified or deleted as required. Each staff section should designate an information management officer who is responsible for collecting and reporting information in his respective area of staff cognizance. Each staff section must ensure that processes are in place to filter and fuse raw data before submission of information to satisfy a CCIR. CCIR tracking, monitoring, and display should take place in the COC. When a CCIR is met, the director of the COC or senior watch officer makes an immediate report to the commander, affected staff sections, and subordinate units.

c. Information Management Techniques. Information requirements are satisfied by using several information management techniques. Four of the more widely employed techniques are prioritizing, filtering, fusing, and correlating.

(1) Prioritizing. By designating an item of information a CCIR, the commander is assigning it his highest priority. Some CCIRs may also be assigned a higher priority than others. Other items of information are also important and will be prioritized accordingly. It is important to recognize that some information, even if not designated as a CCIR, may be very important. Subordinates must have the judgment to recognize the importance of such information and the initiative to immediately get it to the commander. This is in contrast to routine information, which is not time sensitive in terms of decisionmaking and should be processed in a routine fashion.

(2) Filtering. In addition to providing a tool for prioritization, CCIRs serve as an information filter. Commanders and their staffs are inundated with electronic correspondence. The unit information manager, as well as staff section information managers, must impose filters on the information destined for the commander. Each staff section is responsible for ensuring that the information they forward is limited to that information that is necessary and relevant. Likewise, staff sections must filter their requests for information from subordinate units to that information that is necessary and relevant. A disciplined application of information filters can help a unit to avoid causing information overload on both communications networks and the commander and his staff. Just as importantly, filtering information requests prevents wasted effort by subordinate units in the collection, reporting, and processing of nonessential information.

(3) Fusing. Joint Pub 1-02 defines fusion as, "In intelligence usage, the process of examining all sources of intelligence and information to derive a complete assessment of activity." In the intelligence cycle, data collected from various sources—HUMINT, SIGINT, electronics intelligence (ELINT), IMINT, and others—is evaluated, interpreted, integrated, and synthesized to ensure the completeness and accuracy of the answer to a particular intelligence requirement. Similarly, in other warfighting areas, when information is available from more than one source, fusion is necessary. Fusion includes the integration of information from all warfighting areas to produce a complete picture of the situation for the commander.

(4) Correlating. Closely related to the concept of information fusion is information correlation. Joint Pub 1-02 defines correlation as, "The process which associates and combines data on a single entity or subject from independent observations, in order to improve the reliability or credibility of the information." Although information fusion is essentially a manual process, information correlation is often highly automated. The best example of automated information correlation is in the air command and control arena, where the input from multiple sensors and data links is correlated to determine the most probable location of friendly and threat aircraft. With the fielding of the GCCS (discussed later), the fusing and correlating of information from multiple sources to build the common tactical picture and the common operational picture assumes paramount importance for the MAGTF.

d. Shared Situational Awareness. The capability to share a common picture of the battlespace has been assigned the highest priority in current efforts to improve command and control capabilities. At the CINC level, this battlespace picture is the common operational picture, which is a composite of the battlespace pictures of subordinate commanders—common tactical pictures. The common operational picture/common tactical picture enables commanders in different geographical locations and Services to collaboratively communicate and assess the military situation, make decisions for future operations, and transmit those decisions to the proper forces. Procedures must also be in place to validate and verify the data that is being input to the database. This data may or may not be valid. Furthermore, even if the data is valid, it may be showing only what the enemy commander wants to reveal, that is, be part of an enemy deception. The common operational picture/common tactical picture provides commanders and staffs with a shared, graphical depiction of the battlespace, including the following information:

- Current locations and all available status information for friendly, neutral, and enemy ground, maritime, and air units

- All available planned movement information for friendly, neutral, and enemy ground, maritime, and air units

- All available environmental information that could affect the disposition of friendly, neutral, and enemy ground, maritime, and air units (e.g., weather and terrain data)

- Generated control measures, features, and projections (e.g., operating area and fire support coordination measures).

(1) Common Operational Picture/Common Tactical Picture. Common operational picture/common tactical picture reporting requirements are found in CJCS Instruction (CJCSI) 3151.01. Common operational picture information is required at all levels up to and including the National Command Authorities (NCA). Common operational picture/common tactical picture information is scaleable because not all levels need the same level of detail. CINCs control the information in their areas of responsibility by establishing a common operational picture correlation site to pull information together, build a common tactical data set, apply overlays, and filter information. Subordinate commanders will develop and submit their own common tactical pictures, which are correlated and fused at the JTF level and then made available to the CINC for his battlespace picture or common operational picture. CINCs may, in turn, apply planning information and information from other CINCs to further develop their common operational picture. The primary tool for viewing the data in the common operational picture/common tactical picture is the chart application of the GCCS, which generates the situational display from the track database. It should be recognized, however, that the accuracy of the situational display depends completely on the quality and timeliness of data input from multiple sources and the effective correlation and fusion of that data.

(2) Track Database Management. The common operational picture/common tactical picture is developed through the concept of tracks. A track is a representation of an object in graphic and/or text format. The position and characteristics of that object—which may be a friendly or enemy ship, aircraft, or ground unit—are collated from sensors and other data sources (including manual input). Tracks are plotted on a map background to provide a tactical display as described below. The data describing these tracks is stored in a database used to generate the common operational picture/common tactical picture. Each command level that generates a common operational picture/common tactical picture has the responsibility for track management—entering, correlating, updating, fusing, deconflicting, and otherwise maintaining assigned tracks in the track database. This may be accomplished by using automated tools or manual methods or, as is normally the case, through a combination of both automated and manual procedures. Although much of the track data is fed into the database, correlated, and displayed automatically, the data must be managed effectively to prevent obsolete tracks from being displayed.

d. Information Dissemination. Required information must be available to decisionmakers in a usable form when and where needed. This can be accomplished only through implementation of effective information dissemination techniques. A flexible, responsive information dissemination architecture is required that pushes relevant, time-sensitive information to the user while allowing the user to pull additional detail as required. This architecture is increasingly based on the exploitation of networking techniques. Such techniques are already widely in use to improve the flow of information both within and between Marine Corps organizations. These techniques support improved situational awareness and collaborative planning. Networking enables “electronic reachback” to specialized expertise.

Networking techniques are most effective when a unit is able to set up a LAN and establish reliable, high-capacity data communications connectivity to higher echelons. When a unit is moving, currently fielded technology does not support establishment of a LAN, and data transmission is limited to that which can be provided over single-channel radio. This restricts the ability of maneuver units to use networking techniques and limits information exchange to conventional messaging, voice and data. In this regard, it is critical that the introduction of advanced networking technologies to the battlefield does not lead to a brittle command and control architecture. The MAGTF must ensure that it can operate effectively in the most adverse command and control warfare environments. Even as we approach the 21st century, messengers remain a robust, alternative means of information dissemination and, at lower echelons especially, it may be faster to transfer bulk data by means other than electronic.

(1) Networking. The information manager will coordinate with the G-6/S-6 to establish a MAGTF intranet to support information networking. The MAGTF intranet will consist of MAGTF LANs linked by a WAN with global connectivity provided through Defense Information Systems Network (DISN) IP router-based networks as described in MCWP 6-23 (under development). Because the intranet is based on Internet communications protocols and the content standards of the World Wide Web, the tools necessary to create the intranet are similar to those used for developing Internet and Web applications. Furthermore, these tools are available at little or no cost, and many Marines are already using them on their home computers, which greatly eases the training burden.

(a) E-mail. The most widely used networking technique is e-mail. E-mail provides a convenient means for exchanging information between both organizations and individuals and is a highly effective means of communication. E-mail supports rapid dissemination of time-critical information between a headquarters and subordinate organizations and across staff sections. Organizational e-mail has replaced much of the traffic that was previously sent over the Automatic Digital Network (AUTODIN). E-mail permits a single user to disseminate information to one or several users simultaneously. E-mail, like other forms of messaging, pushes the information to designated recipients. All information push techniques have the potential to overload the communications circuits in a deployed environment. The ease of generating and sending e-mail traffic, often containing large attached files, is a particular problem in this regard. The information management plan must address these issues with a disciplined approach to the establishment and use of e-mail accounts. Organizational or billet e-mail should be emphasized over individual e-mail and minimize procedures must be clearly defined.[2]

(b) Information-Pull Techniques. Other networking techniques employ the concept of information pull. Information is transmitted over the network when it is required by the

[2] Minimize is “a condition wherein normal message and telephone traffic is drastically reduced in order that messages connected with an actual or simulated emergency shall not be delayed.” (Joint Pub 1-02)

ultimate user. This approach to information dissemination has the potential to reduce the load on the communications network and thereby improve the information flow. These information-pull techniques include the use of Web pages, newsgroups, and shared network drives on a LAN. However, posting information to a newsgroup or a home page or updating a file on a LAN server is no guarantee of receipt of that information by the intended audience. Pull techniques are generally unacceptable for the promulgation of time-sensitive critical information such as fragmentary orders, warning orders, or fire support coordination measures and missions. Although brief messages could be sent indicating that the order had been posted and requiring acknowledgment, the order itself normally would not have been lengthy enough to make this an efficient approach. On the other hand, when selective access to information in large databases is required to support an analysis, pull techniques are far more efficient than push techniques.

- **Web Pages.** Web sites are a useful method for sharing information with all users who have a Web browser (e.g., Internet Explorer or Netscape) and access to the MAGTF intranet (which would normally, at a minimum, interconnect the MEF CE with MSCs). If Web sites are used, the information management plan must provide guidance to staff sections and subordinate commands on their responsibilities for developing and maintaining Web pages. This guidance should include instructions on format and content as well as frequency of update. The information manager must ensure that the information provided via Web pages is a coordinated part of the overall information dissemination effort.

- **Newsgroups.** Newsgroups function like electronic bulletin boards and are another means of disseminating information throughout the MAGTF intranet. Newsgroups are run from a Web browser application (e.g., Netscape) and allow information to be created, posted, read, and transferred. The information consists of text files or “articles” that are transferred via a bulletin board-style broadcasting service to sites throughout the intranet. As is the case with other Web techniques, newsgroups should be a coordinated part of an overall information dissemination plan. The MAGTF newsgroup structure should be designed to permit users easy access to desired information. It should incorporate hypertext links from a newsgroup home page. The hypertext links have the advantage of leading users directly to the information without requiring them to browse the entire newsgroup. The newsgroup home page should contain hypertext links to major category newsgroups. For example, a MAGTF newsgroup home page could provide a link to a newsgroup called “commander” that contains the mission analysis, commander’s intent, commander’s planning guidance, commander’s estimate, and decision brief. Other information available in newsgroups could include orders, rules of engagement, CCIRs, telephone directories, staff estimates, message boards, suspense logs, and virtually any other information requiring widespread dissemination.

  The MAGTF information management officer is responsible for coordinating the use of newsgroups on the MAGTF intranet. Every general staff section and MSC could be

assigned responsibility for one or more newsgroups. Newsgroups should be based on the structure of the MAGTF and the desired flow of information. Each staff section must monitor the assigned newsgroups to ensure that only appropriate information is posted to the newsgroup. The information management officer must ensure that the newsgroup structure and procedures are promulgated in the information management plan.

- **Shared Drives.** The use of shared drives predates Web-based technologies. Any LAN can be set up by the LAN manager with shared and/or private hard drive space. Private drive space limits access to stored data. Access is generally limited to specific functional areas, as defined by user login names. Shared drives are accessible by anyone on the LAN who is given access by the LAN administrator. The use of shared drives, organized with appropriate subdirectories and files, increases visibility of files and facilitates the use of information in those files. Staff sections are responsible for the currency, accuracy, and maintenance of their shared drive information.

(2) Broadcasting. Industry pioneered the development of direct broadcast television service by using very sophisticated satellite and electronic technology to deliver hundreds of video "channels" directly into consumers' homes via very small antennas and affordable and compact "set top" electronic boxes. This same technology is being adapted to military needs. Although commercial Direct Broadcast Service (DBS) is tailored specifically for the television market, the technology is, through the Global Broadcast Service (GBS), being modified to serve the information needs of military users for a variety of high-volume products, such as high-resolution imagery, weather, mapping, and logistics, as well as video services. The Navy UHF Follow-On (UFO) satellite program is providing the interim GBS capability on three satellites. The high level of power available on the GBS satellites allows deployed forces to receive the broadcast streams at high data rates with small, lightweight, low-cost terminals.

Existing communications systems supporting the MAGTF are quickly saturated in the early phases of a conflict. Many of the information products created (e.g., imagery, weather, and ATO) are composed of huge data files that require significant amounts of bandwidth to transmit. GBS promises to augment existing communications capabilities with a high-speed, one-way information flow of high-volume data to units, whether in garrison or deployed. This will, in turn, lessen the load on existing two-way communications systems. The GBS system will not replace existing military satellite communications (MILSATCOM) systems, but will augment them by providing the capability to quickly distribute large information products to deployed users. GBS will employ a "smart push/user pull" philosophy to avoid burdening deployed forces with information overload. It will be the job of the information manager to develop techniques to ensure that the MAGTF makes effective use of GBS. Access to the broadcast manager is key to ensuring that the right information is available on the broadcast. Data available for download is based on user direction and priorities. The MAGTF will be in competition with other worldwide consumers to influence the programming.

(3) Echelon Skipping. As a general rule, the flatter an organization, the more rapidly information can flow up and down the chain of command. Another way to speed the flow of information is to bypass layers of command. In this vein, commanders should have the flexibility to eliminate or bypass selected echelons of command or staff as appropriate to improve operational tempo. Not all echelons of command need to exercise all functions of command. In putting the "echelon skipping" philosophy into practice, caution should be exercised. Although there is usually no need to compile and coordinate routine CSS requests at every echelon, this is not the case with respect to dissemination of information concerning maneuver control and fire support. In these latter instances, for example, in processing fire support requests, the policy of "silence is consent" maintains tempo while keeping all commanders aware of the situation. The information management plan should establish procedures for information flow to ensure that only those units and echelons that either need or add value to information receive that information.

(4) Video Teleconferencing. VTC is being implemented in operating forces as well as in the supporting establishment. Improvements in digital video compression combined with high-capacity data transmission systems have made it possible to provide a VTC capability to deployed units. For the near term, the requirement for fixed facilities and bandwidth demands will limit VTC capability to higher echelons of the MAGTF and the MARFOR. However, when available, VTC provides an extremely useful means of exchanging information with subordinate commanders and staffs and supports distributed, collaborative planning while in garrison or shipboard. Some advantages of VTC are listed below:

- Verbal and visual communications take place simultaneously on the same medium.
- More than one person can participate at the same time with little confusion.
- Visual communication signals (such as body language) are provided.
- An alternate means of communication is provided.
- Interactive information exchange between two or more command/staff elements is possible.

e. Information Reporting. Information is collected in a variety of ways. Some is collected and analyzed before an operation. Considerable information about the enemy, terrain, and weather is provided from higher headquarters. Organic and supporting reconnaissance, surveillance, and target acquisition assets are tasked to collect current information on enemy disposition and activity. Most information on the friendly situation, however, comes in reports from subordinate units. The authority to require elements of a command to submit reports resides with the commander. Centralizing this authority ensures that reporting requirements are carefully coordinated and do not proliferate to the point that subordinate commands are overwhelmed. The information management plan should establish reporting procedures on the basis of the following:

- Appreciating the impact of reporting requirements on subordinate units and staffs
- Focusing on collecting that information identified as critical—the CCIRs
- Ensuring that information collected is not redundant and that information of marginal utility is not collected
- Reporting on a "by exception" basis (Subordinate units should send reports forward only when certain events occur or thresholds have been reached. This ensures that routine information does not obscure critical information.)
- Simplifying and streamlining reporting procedures
- Establishing realistic deadlines and minimizing the number and frequency of reports
- Ensuring a two-way flow of information and establishing procedures for reconciliation and validation of information content.

The information management plan should include an appendix describing the originator, the recipients, the reporting frequency, the method of transmission, and the report format. Report formats should be designed to facilitate efficient production, transmission, and ease of use. When available, United States message text format (USMTF) should be used. USMTF is the message format mandated for use in joint operations. The use of USMTF message and data element standards helps to ensure the quality and consistency of information reported. It promotes both intraoperability within the MAGTF and interoperability with joint forces.

f. Information Display. Information presented graphically is easier for the user to assimilate than information presented in narrative form. Therefore, whenever possible, information should be provided to commanders and staffs in the form of maps, overlays, and charts. Such displays may be generated by using either automated or manual means and should employ standard formats, terminology, and symbology in accordance with MCRP 5-12A, *Operational Terms and Graphics*. Whether generated manually or with automated assistance, visual displays should do the following:

- Display essential information
- Display information clearly and understandably
- Display information accurately, reliably, and in a timely manner
- Be designed for ease of update.

Color-coded charts may be used to reflect the current status of a unit or system. Commonly known as gumball charts, their use is described in MCRP 5-12A. The gumball chart can rapidly present

each unit's or weapons system's combat status through established color codes. Color codes allow the staff to focus rapidly on critical problems. Gumball charts are backed up with narrative charts and graphs to provide expanded status information. Operations maps and overlays should contain only the minimum information required for the commander to visualize the battlespace. Detail is time consuming to collect and plot unless automated support is available. Furthermore, extensive detail hinders rather than helps the decisionmaking process.

Critical information for the commander is displayed in the unit's COC. The G-3/S-3 maintains the operations map and status boards in the COC based on information provided by cognizant staff sections. As discussed in the next chapter, automated battlespace information systems such as the GCCS and the TCO system support information processing and display in the COC. The displayed information should be held to an absolute minimum. The CCIRs and the unit's information management plan should guide the type and number of displays that the unit needs. The displays must be continually updated, available, and easily accessible to the commander and his staff.

g. Briefings. One of the oldest and best techniques for keeping the commander and staff informed of the current situation and the major issues facing the command is through staff briefings. Briefings are designed for the rapid dissemination of information to a group of people. The purpose of a briefing may be to obtain an answer or a decision, in which case it is called a decision briefing. Typically, a decision briefing consists of the presentation of a staff officer's recommended solution resulting from analysis or study of a problem or problem area. The staff officer seeks the commander's concurrence on the proposed course of action. The information briefing, on the other hand, is intended only to inform the listener and to gain his understanding of the issue. The information briefing does not include conclusions and recommendations, nor does it require decisions. Staff briefings are usually a composite of information and decision briefings. The staff briefing is intended to secure a coordinated or unified effort by the entire staff. This may involve the exchange of information, the announcement of decisions, the issuance of orders, or the presentation of the commander's guidance and intent. Attendance at staff briefings varies with the size of the headquarters, the type of operation being conducted, and the personal desires of the commander. Generally, the commander, deputies or assistants, the chief of staff or executive officer, and coordinating and principal special staff officers attend. Representatives from MSCs may be present. The chief of staff or executive officer usually presides over the staff briefing and calls on staff representatives to present matters in their area of cognizance.

In garrison, staff briefings are held on a regularly scheduled basis—often weekly. In combat, staff briefings are held as frequently as required by the situation. In larger headquarters, a daily—sometimes twice daily—situation briefing is held for the commander, normally in or adjacent to the COC. The situation briefing updates the commander on current operations, future operations, and long-range plans. This daily briefing establishes the operational cycle for the entire staff. The operational cycle is sometimes called the "battle rhythm" and is based not only on the unit's internal requirements for meetings, briefings, and updates, but also on the requirements imposed by higher headquarters. At lower echelons, formal staff briefings in the COC would likely occur only during the planning phase of an operation. During execution, staff briefings would take the form of staff estimates presented as an integral part of the MCPP.

h. Information Protection. Information protection is a critical component of information management. Networks and the information that they contain represent a high-value target and must be adequately protected to maintain the MAGTF command and control capability. Increasing reliance on automated information systems for information management is a potential critical vulnerability for enemy exploitation. Mission accomplishment depends on safeguarding information and information systems from destruction, disruption, corruption, intrusion, and exploitation. All users should assume that their information and information systems are targets. Therefore, all users share responsibility for adequately protecting and defending friendly information and information systems through aggressive application of information assurance measures. The predominant means to apply information assurance is through an INFOSEC program that includes intrusion detection, effect isolation, and rapid response to restore information integrity and system security. INFOSEC procedures are discussed in chapter 8.

7003. Information Management Plan. The information management plan describes the processes by which information will be created, processed, maintained, displayed, and disseminated within the organization. Normally, the information management plan will consist of a set of SOPs that are updated as necessary to fit the circumstances of a particular exercise or operation and promulgated as an annex to the OPLAN or OPORD. The unit information management officer, with the guidance of the chief of staff or executive officer and in coordination with the information management officers of each staff section and subordinate units, develops the information management plan. In the development of the information management plan, each staff section identifies its information requirements, including the nomination of CCIRs. These requirements must then be integrated and prioritized into overall unit information requirements, and the information management procedures must be developed to satisfy them. The information management plan must be closely coordinated with the communications and information systems officer to ensure adequate communications and information systems support. The information management plan will include the following:

- Procedures by which information requirements are identified, developed, and prioritized, including how CCIRs are nominated, approved, collected, reported, maintained, and disseminated (The information management plan will identify and assign responsibility for standing CCIRs—key items of information that will be required in almost any situation. These standing CCIRs must be reviewed for relevancy and modified, expanded, or deleted as necessary. The CCIR procedures will include guidance on filtering and fusing raw data before submission and dissemination.)

- Procedures by which the common tactical picture is maintained and displayed (This will include guidance on the level of detail (e.g., a division common tactical picture might display friendly units down to the battalion level, while a battalion common tactical picture might display friendly units down to the platoon level); assignment of responsibility for the quality and integrity of the database, including the management of air, ground, and sea tracks/unit locations; and assignment of responsibility for maintaining the status of friendly and enemy units. Each staff section will be assigned responsibility for providing status information for the functional areas over which they have cognizance.)

- Designation of data standards, including standards for symbology, report/message formats, and data element standards

- Procedures supporting the effective dissemination of both routine and time-sensitive information (Information dissemination strategies will combine supply-push with demand-pull approaches to make optimal use of available communications and information systems resources. As discussed above, the MAGTF intranet will be used at higher echelons to support networking techniques such as e-mail, newsgroups, and home pages. Policies governing the use of these techniques must be established in the information management plan. The information management plan will include manual as well as automated procedures for information dissemination. Tactical echelons must avoid overloading communications circuits. Particular attention should be given to the best approach for transferring high-volume data formats such as imagery, video, maps, and overlays. Messengers remain a reliable means of information dissemination, although they may well be carrying information on electronic storage media rather than in hard copy.)

- Procedures governing information reporting (As discussed above, the information management plan should include an appendix describing the originator, the recipients, the reporting frequency, the method of transmission, and the report format.)

- Procedures for the design, maintenance, access, use, synchronization, and integration of databases supporting command and control

- Procedures and schedules for staff briefings (This will establish the unit operations cycle and, therefore, is developed in coordination with all staff sections and subordinate units. On commencement of operations, the chief of staff or executive officer may modify the operations cycle as necessary to maintain tempo or to adjust to the unfolding situation.)

- Procedures for ensuring the security and integrity of information.

7004. Information Management Officer. The unit information management officer is a special staff officer operating under the staff cognizance of the chief of staff or executive officer; if an information management officer is not designated, then this duty is the responsibility of the chief of staff or executive officer. Each principal/special staff officer must also assign an information management officer to conduct internal staff information management functions and coordinate with the unit information management officer for overall staff information management. The unit information management officer is responsible for establishing the policy and procedures for information management within the command. Responsibilities of the unit information management officer include the following:

- Coordination, with the assistance of the information management officers of each staff section and subordinate units, of information management efforts throughout the organization

- Development and publication of the information management plan that promulgates policies and procedures for ensuring the quality and flow of information within the organization

- Coordination of the CCIR process—the nomination of CCIRs; approval of CCIRs by the commander and collection and reporting of CCIRs by the staff; dissemination of CCIRs to higher, adjacent, and subordinate commands; and maintenance of CCIRs

- Development and implementation, in close coordination with information management officers representing staff sections and subordinate units, of effective information dissemination and information reporting techniques, as well as the procedures and schedules for staff briefings

- Development of training programs on information management procedures

- Coordination with the unit security manager for the development and implementation of INFOSEC procedures

- Close and continual coordination with the communications and information systems officer to ensure adequate communications and information systems support for implementation of the information management plan (At higher echelons, much of the focus of this coordination will be on LAN management and networking issues to establish an intranet that provides data networking capability between major elements of the MAGTF as well as worldwide.)

- Close and continual coordination with the information management officers of higher commands.

7005. Staff Section Information Management Responsibilities. All staff principals have information management responsibilities for the information relating to the functional areas over which they have staff cognizance. Each staff section should appoint an information management officer who is responsible for the following:

- Close and continual coordination with the unit information management officer

- Coordination of the internal and external information flow for the staff section and its integration with the information flow of other staff sections, including identification and prioritization of information requirements

- Coordination of the identification, collection, and processing of all CCIRs within the staff section's area of cognizance

- Coordination of staff section input to the common tactical picture

- Coordination with the unit information management officer in developing and implementing the information management plan

- Coordination of information management training for section personnel with the unit information management officer

- Identification of communications and information systems requirements to support implementation of the information management plan within the staff section.

Chapter 8

Command and Control Warfare

8001. General. Naval and air superiority have long been recognized as necessary preconditions for the success of amphibious operations. In today's littoral battlespace, information superiority is just as critical. Timely, accurate, and relevant information is absolutely essential. Modern warfare depends on effectively employing information technology in support of the command and control process. This reliance on information technology creates dependencies that must be protected on the one hand (friendly capabilities) and can be exploited on the other (enemy vulnerabilities). This is the realm of information warfare (IW) and its subset, C2W.

IW consists of actions taken to achieve information superiority in support of national military strategy by affecting adversary information and information systems while leveraging and protecting our own information and information systems. C2W is the integrated use of OPSEC, deception, PSYOP, electronic warfare, and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy an adversary's command and control capabilities while protecting friendly command and control capabilities against such actions by an adversary. C2W is an application of IW that specifically attacks and defends the command and control target set. Figure 8-1 is a graphic depiction of this concept in the context of the familiar OODA model of the decisionmaking process. As we protect our decisionmaking process, we seek to disrupt and slow the enemy decisionmaking process.

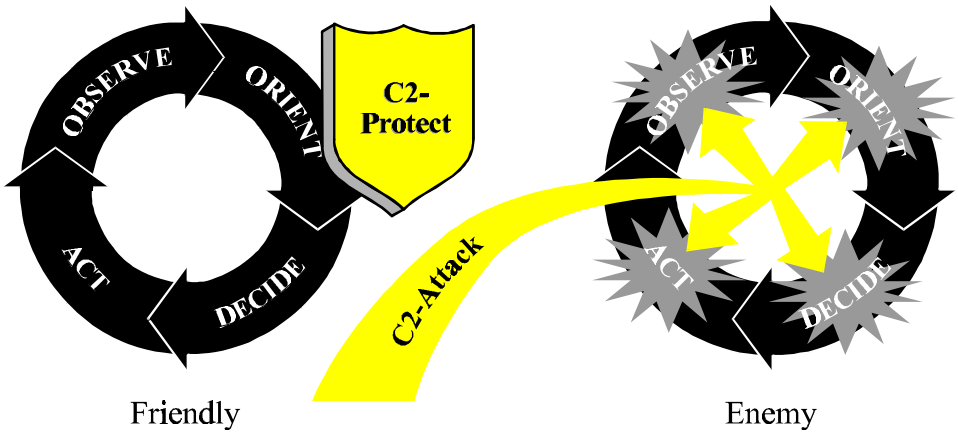

Figure 8-1. The Decision Cycle and Command and Control Warfare

Command and control involves both offensive and defensive actions and is subdivided into the following categories:

- **Command And Control-Attack—**Those actions taken to prevent effective command and control of adversary forces by denying information to, influencing, degrading, or destroying the adversary command and control system.
- **Command And Control-Protect—**Those actions taken to maintain effective command and control of friendly forces by turning to friendly advantage or negating adversary efforts to deny information to, influence, degrade, or destroy the friendly command and control system.

MCWP 3-36, *Naval Command and Control Warfare*, addresses C2W in detail.

8002. Implementation. C2W is coordinated at the operational level. The C2W efforts of the MAGTF should be closely integrated with those of the JTF and the ATF to maintain a focused strategy and make optimal use of C2W assets. The G-3/S-3 has overall responsibility for planning, coordinating, and executing C2W actions. The G-3/S-3 also has staff cognizance over each of the five components of C2W. A C2W plan will be a component of the OPLAN and will serve as the basis for planning for each element of C2W. C2W will be used to support all phases of the operation. Effective planning and execution of C2W will ensure the information superiority required to successfully execute MAGTF operations. It will permit the MAGTF to seize and maintain the initiative, control the tempo, and accomplish the mission swiftly and decisively. This chapter focuses on the actions necessary to provide command and control-protect. Command and control-protect strategies focus on protection of infrastructure and data, detection of attacks, prompt reaction to attacks, and rapid restoration of service in the event of disruption. The following paragraphs detail the five components of C2W.

a. Operations Security. OPSEC is the process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to do the following:

- Identify those actions that can be observed by adversary intelligence systems
- Determine indicators that adversary intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries
- Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation.

The target of OPSEC is the adversary's intelligence system. Effective OPSEC denies the adversary of good intelligence, thus making him unable to use his forces effectively. The role of OPSEC, as a part of the overall command and control-protect effort, is to deny critical information about friendly forces to the enemy. This is complicated by the presence of news media in the area of operations. News media have the capability to transmit operationally sensitive information on a real-time basis to a worldwide audience, thus serving as a lucrative source of information to adversaries. OPSEC planners, working closely with public affairs personnel, must develop essential elements of friendly information to be used to preclude inadvertent public disclosure of critical or sensitive information.

CI support is an integral part of successful OPSEC. PSYOP and military deception personnel also work closely with OPSEC planners to mutually support their respective efforts.[1]

b. Psychological Operations. PSYOP are planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, and objective reasoning and, ultimately, the behavior of foreign governments, organizations, groups, and individuals. The purpose of PSYOP is to induce or reinforce foreign attitudes and behavior favorable to the originator's objectives. PSYOP planning will be conducted by the JFC, and PSYOP must be approved by the NCA. PSYOP should be integrated, coordinated, and deconflicted with the other components of C2W. The main role of PSYOP in command and control-protect is to minimize the effects of an adversary's hostile propaganda and disinformation campaign against U.S. forces. Discrediting adversary propaganda or misinformation about the operations and intentions of U.S./coalition forces is critical to maintaining favorable public opinion. The 3rd CAG at Camp Pendleton, CA and the 4th CAG in Washington D.C. provide PSYOP detachments to the Marine Corps.

c. Military Deception. Military deception involves actions executed to mislead enemy commanders as to friendly military capabilities, intentions, and operations, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission. It may only be necessary to cause the adversary commander to hesitate in making decisions during a critical time in the engagement. Military deception may be used in a command and control-protect strategy to mislead an adversary about friendly command and control capabilities. A successful deception would cause him to misallocate resources in an effort to destroy or exploit friendly command and control systems.

d. Electronic Warfare. Electronic warfare measures play a major role in C2W. Electronic warfare is subdivided into three components:

- **Electronic Attack—**That division of electronic warfare involving the use of electromagnetic, directed energy, or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability.

- **Electronic Protection—**That division of electronic warfare involving actions taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability.

- **Electronic Warfare Support—**That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition.

[1] The Marine Corps has no PSYOP capabilities. Consequently, when assigned a mission that requires PSYOP capabilities (e.g., designated as the nucleus of a JTF in a military operations other than war scenario), the MAGTF must be augmented with PSYOP specialists from the Army.

All three categories of electronic warfare make a contribution to command and control-protect. Electronic warfare support, supported by SIGINT data, can be used to identify threats to and potential vulnerabilities of our communications networks. Electronic attack measures, whether through deception, jamming, or physical destruction of enemy capabilities, provide protection for our communications networks. Electronic protection measures are the most directly related to command and control-protect. Good electromagnetic emanations practices are key to a successful defense against the enemy's attempts to destroy or disrupt our communications. Realistic training and exercises are the most effective means of developing our electronic protection capabilities. Assistance in this area is available from the radio battalion.

e. Physical Destruction. Physical destruction as an element of C2W refers to the use of "hard kill" weapons against designated targets as part of an integrated C2W strategy. Normally, when employed as a component of command and control-attack, physical destruction would target enemy command and control nodes. However, as a component of command and control-protect, physical destruction may be used against any target that poses a threat to friendly command and control. The selection of targets for physical destruction falls within the realm of weapons targeting and should be done as part of the targeting process.

8003.Intelligence Support. Intelligence supports command and control-protect planning by providing analyses of enemy command and control systems and C2W capabilities. These analyses enable C2W planners to assess the vulnerability of MAGTF communications and information systems and prioritize command and control-protect measures, including targeting enemy command and control-attack capabilities. Intelligence also supports planning for each of the elements of C2W—OPSEC, PSYOP, military deception, electronic warfare, and physical destruction.

8004. Public Affairs Role in C2W. A Public Affairs representative with the appropriate clearance level and "need to know" designated to work with the C2W planners should ensure that PA programs and initiatives compliment C2W operations. The PA representative should have an appropriate level of security clearance and have access, on a "need-to-know" basis, to those C2W operations, which could be impacted by public affairs initiatives that are inconsistent with those operations. The PA representative coordinating with the C2W planners should not be the Joint Staff PA or any person acting as a spokesperson responsible for briefing media personnel. However, this PA representative should have a comprehensive understanding of the friendly command information program and an understanding of media/military relations and press pool operations. The PA representative should also be able to report on current media activities and provide an assessment of media reports on current operations.

8005. Employment. The Marine Corps employs Radio Battalions and the Marine tactical electronic warfare squadron (VMAQ) to conduct C2W.

a. **Radio Battalion.** The mission of the radio battalion is to provide tactical signals intelligence (SIGINT), ground-based EA, communications security (COMSEC) monitoring, and special intelligence (SI) communication support to the MAGTF. There are two radio battalions within the

FMF: 1st Radio Battalion, which is under the OPCON of COMMARFORPAC and is responsible for providing support to it and I and III MEF; and 2d Radio Battalion, which is responsible for support to MARFORLANT and II MEF. It is tasked to:

- Conduct tactical (SIGINT) support operations in support of any MAGTF operation, including intercept, radio direction finding (DF), recording, and analysis of communications and noncommunications signals and SIGINT pro- cessing, analysis, production, and reporting.
- Conduct EA against enemy or other hostile communications.
- Conduct COMSEC monitoring and reporting on friendly force communications.
- Provide SI communications support and cryptographic guard (personnel and terminal equipment) in support of MAGTF CEs and battalion operations. (Note: Communications connectivity for SI communications is provided by the communications unit supporting the MAGTF CE.)
- Provide SIGINT support units (SSUs) to MAGTFs that are task organized with designated SIGINT, EA, sensitive compartmented information (SCI) communications, and other capabilities.
- Provide radio reconnaissance teams with specialized insertion and extraction capabilities (combat rubber raiding craft, fast rope, rappel, helocast, static line parachute) to provide specified SIGINT and EA support during advance force, preassault, or deep postassualt operations.

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b. **VMAQ**. The mission of the VMAQ is to conduct airborne EW in support of FMF operations. The VMAQ is organized to function independently with its own logistic and administrative support capabilities. The squadron is structured to operate as a subordinate unit of a MAG or carrier air wing. Each squadron has five EA-6B aircraft. It is tasked to

- Conduct airborne EA and EW support operations.
- Conduct EA in support of training of FMF units or other forces as assigned.
- Process and provide mission data from tape recordings obtained on EW missions for updating and maintaining an electronic order of battle.
- Maintain the capability of operating from aircraft carriers, advance bases, and expeditionary airfields.
- Maintain the capability to operate during darkness and under all weather conditions.
- Maintain the capability to deploy or conduct extended-range operations that require aerial refueling.
- Perform organizational maintenance on assigned aircraft.

8006. The Threat. The first step in planning a command and control-protect strategy is understanding the threat. Intelligence analyses must identify threat objectives, capabilities, and techniques as well as friendly vulnerabilities. The threat's overall capability to conduct C2W affects the way the MAGTF must defend its communications and information systems. The threat is extremely diverse. MAGTF information systems are connected into worldwide communications networks that are only as secure as

the weakest link. The enemy can gain access to much of the same information infrastructure used by the MAGTF. With the open nature of the Internet, intruders can inflict damage on information systems from virtually any location with little fear of detection. The threat can include hackers; criminals; and disaffected, disgruntled, or disloyal personnel in addition to the more traditional threat posed by foreign intelligence agents and enemy SIGINT/electronic warfare personnel. Furthermore, intruders do not necessarily need sophisticated technology. All that may be required to bypass security features on a LAN is a compromised password. Once access is gained, the attacker can employ malicious logic to inflict tremendous damage on our information systems. (Malicious logic is computer code designed to deny, destroy, modify, or impede system configurations, programs, data files, or routines. Types of malicious logic include viruses, Trojan horses, logic or time bombs, and worms.) The enemy will have several objectives in attacking MAGTF information systems, and these are described in the following paragraphs.

a. Information Compromise. One of the major goals of threat attacks on MAGTF information systems is to gain access to classified or sensitive information. In today's environment, this type of information is surprisingly easy to obtain. For example, careless e-mail exchanges with family and friends can reveal planned MAGTF movements and operations. E-mail can be easily intercepted and exploited by enemy agents. Information compromise can also occur through the technique of masquerade; that is someone acting as someone else. When personnel are careless with passwords, an enemy can masquerade as a friendly by using a compromised password.

b. Information Modification. Another objective of attacks on our information systems is the modification of information. Such information modification may be used to create an electronic deception. In other instances, the attack may destroy information required for planning. Either case can severely degrade the commander's ability to make sound decisions in a timely manner.

c. Denial of Service. A third objective of enemy attacks on our information systems is either total or partial disruption of our ability to process, retrieve, and disseminate information. Corruption of data, as described above, can result in a loss of confidence and self-denial of service, while successful malicious logic attacks on stored data, applications, or operating systems may render information systems unusable. Physical destruction or damage to command and control facilities/personnel will be a high priority for the enemy. Finally, the environment itself is a potential disruptive force. Information systems, particularly COTS hardware components, require protection from power surges and extreme climatic conditions.

8007. Information Security. A critical element of the MAGTF command and control-protect strategy is an effective INFOSEC program (Chapter 7 of MCWP 6-22 addresses INFOSEC in detail). INFOSEC is defined as the protection of information systems against unauthorized access to or modification of information, whether in storage, processing, or transit, and against denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats. (National Security Telecommunications and Information Systems Security Instruction (NSTISSI) 4009, 1992) INFOSEC is a command responsibility. It is also the responsibility of each individual user of communications and information systems. The G-6/S-6 is

responsible to the commander for the overall planning, supervision, and coordination of the INFOSEC program. INFOSEC includes two key security disciplines: COMSEC and computer security (COMPUSEC).

a. Communications Security. COMSEC is the protection resulting from all measures designed to deny unauthorized persons information of value that might be derived from the possession and study of telecommunications or to mislead unauthorized persons in their interpretation of the results of such possession and study. COMSEC includes physical, cryptographic, transmission, and emission security. The goal of COMSEC is to protect friendly communications from enemy exploitation while ensuring unimpeded use of the electromagnetic spectrum. COMSEC enables the MAGTF to employ communications equipment effectively in the face of enemy electronic warfare.

b. Computer Security. COMPUSEC is the protection resulting from all measures to deny unauthorized access to and exploitation of friendly computer systems. While COMSEC provides the security for information that is being transferred through communications systems, COMPUSEC involves establishing policy and procedures to ensure the integrity and security of information that is being collected, stored, processed, and displayed by computers and peripheral equipment at end-user locations. COMPUSEC includes putting into place measures to protect information and information systems, to detect intrusion, to respond to attacks, and, if necessary, to restore lost data and service. An essential component of COMPUSEC is a security policy, which is a document that details roles and responsibilities within an organization to protect that organization's technology and information assets.

8008. Information Operations. Information operations are actions taken to affect adversary information and information systems while defending one's own information and information systems. IO consists of offensive IO and defensive IO, and related activities; e.g. civil affairs and public affairs, and focus on the totality of national power on achieving specific national objectives. Offensive IO consists of computer network attack (CNA), C2W, EW, PSYOPS, Military Deception, physical destruction, and special information operations (SIO). Defensive IO is made up of OPSEC, physical security, information assurance, electronic protection, counterpsychological operations, counterintelligence, counterdeception, and counterreconnaisance. With the exception of operations security and electronic protection, all elements of IO are functionally unique, yet considered as a whole, none of them are new.

8009. Summary. With growing reliance on COTS technologies, a comprehensive, tactical command and control protection strategy is mandatory to keep the advantages gained through these technologies from becoming critical vulnerabilities. The MAGTF intranet is potentially vulnerable to anyone with Internet access and IP address information. A single IP address could provide an opponent with the gateway needed to compromise the entire MAGTF intranet. IP addresses are the call signs and frequencies of communications over the intranet. MAGTF commanders and their staffs must become aware of these potential vulnerabilities and take steps to eliminate them. Effective INFOSEC policies must be implemented to deal with the reporting and investigating of computer incidents, the distribution of IP addresses, the controlling of passwords to access tactical information systems, and a host of other

critical issues. Designing a command and control protection strategy that balances INFOSEC requirements against the need for a free flow of information is a tremendous challenge. However, unless that challenge is met, the information superiority sought by the MAGTF becomes, instead, an information vulnerability. In the information age, the MAGTF cannot accomplish its mission without a viable command and control protection strategy combined with an effective INFOSEC program.

Chapter 9

Emerging Concepts

9001. General. Evolving operational concepts place stringent demands on the command and control capabilities of the MAGTF. The MAGTF will be required to exercise command and control both ashore and afloat over greatly extended distances. Furthermore, the MAGTF will depend on increasing amounts of information to plan operations, deploy and sustain its forces, and execute its missions. Information systems must provide the capability to collect, process, and display this information in a common picture of the battlefield to be shared by commanders and their staffs. Communications systems must provide a robust voice and data communications capability between command and control nodes throughout the battlespace and connectivity to information resources throughout the world.

Ongoing developments in communications and information systems, many of which are addressed in chapter 7, will provide many of the improved capabilities needed in the near future. However, these new systems and equipment must be married with the effective techniques for managing information presented in chapter 6. Without such disciplined information management techniques and procedures, focused, efficient command and control will be impossible and the introduction of new information technologies on the battlefield will be counterproductive. New concepts for command and control must be incorporated into our proven MAGTF command and control doctrine to adapt to and take advantage of the rapid changes taking place in information technology. Several such concepts, including electronic reachback and collaborative planning, are discussed in chapter 3. These concepts exploit recent developments in networking technology through use of a MAGTF intranet and may be viewed as an integral part of the command and control concept known as "network-centric warfare."

9002. Network-Centric Warfare. The concept of network-centric warfare is derived from the concept of "network-centric computing." Developments in networking technology have allowed computing to evolve from "platform-centric computing" based on large mainframe computers to "network-centric computing" based on interconnected networks of computers and servers of all sizes. These networking developments include HyperText Markup Language (HTML), Web browsers, TCP/IP and the Internet, and the Java programming and computing environment. These developments enable computers with different operating systems to interact with each other over the Internet. Network-centric warfare involves exploiting these same information networking developments. Just as network-centric computing has been exploited in the private sector to provide a competitive edge in business sector,[1] the emerging concept of network-centric warfare can provide a competitive edge in warfare.

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[1] Wal-Mart uses network-centric computing to increase the situational awareness of its managers. Through network-centric computing Wal-Mart makes stocking and pricing decisions based on real-time sales information, which enables its widely distributed stores to literally destroy their competition. Wal-Mart is so effective that the announcement that a Wal-Mart is locating in a community is often enough to cause competitors to shut down or relocate—an excellent example of the effectiveness of information warfare in the commercial sector.

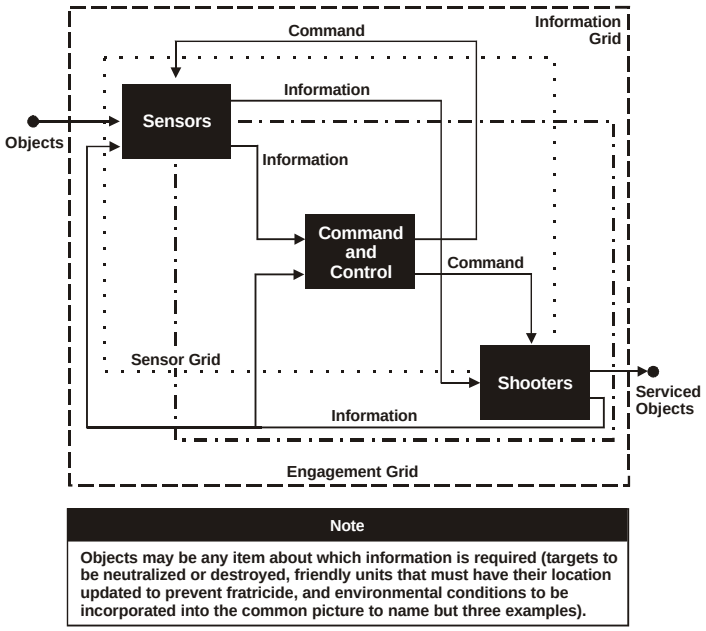

Figure 9-1. Operational Architecture

Network-centric warfare can be viewed as an operational architecture consisting of three interconnected grids linking sensors, command and control nodes, and shooters that increases combat power. Figure 9-1 is a conceptual depiction of such an architecture.
This diagram highlights the network-centric information flow between sensors, command and control, and shooters and suggests three potential building blocks or subarchitectures—an information grid, a sensor grid, and an engagement grid.

a. Information Grid. The information grid provides the overall infrastructure for network-centric computing and communications. This infrastructure provides the means to receive, process, transport, store, and protect information for the MAGTF. The information grid includes embedded capabilities for information protection and assurance. The information grid consists of the communications paths, command and control nodes, and supporting information systems and services that enable network-centric computing and communications across the MAGTF. The information grid provides connectivity to and between the sensor and engagement grids. The information that is collected, processed, and delivered by the information grid supports the cognitive process described in chapter 5 through the generation and dissemination of real-time situational awareness. This information is the basis for decisionmaking. Decisions are disseminated rapidly over the grid as commands to both sensors and shooters.

b. Sensor Grid. The sensor grid is composed of air-, space-, ground-, and seabased sensors both organic to and in support of the MAGTF. These sensors include dedicated sensors, sensors organic to weapons systems, and sensors employed by reconnaissance units and individual Marines. Sensor systems may also include embedded sensors that track levels of consumables (i.e., fuel or munitions)

or contents of containers. The sensor grid provides the MAGTF with the information required for situational awareness of friendly forces, enemy forces, and the environment across the battlefield. The size, composition, and complexity of the sensor grid required to support a specific mission will depend on the situation.

Linkage of the sensor grid to command and control nodes by the information grid supports more efficient employment of sensors through a combination of dynamic sensor tasking and improved data fusion. Dynamic tasking permits grid sensors to support specific "shooter" missions and to respond to either preplanned missions or real-time tasking. Data fusion, which combines the output of multiple sensors, increases situational awareness by increasing the probability of object detection and object identification. In addition, data fusion can decrease the time required to develop engagement quality target information.

c. Engagement Grid. The engagement grid will consist of "shooters," which are distributed units and weapons systems—air, ground, surface, and subsurface—connected by the information grid. Engagement grids allow the maneuver of units and the pairing of targets with shooters based on both real-time situational awareness and the commander's knowledge and intuition. This provides a number of enhanced operational capabilities:

- Improved operational flexibility
- Improved ability to coordinate fire with maneuver
- Improved speed and tempo of operations
- Improved ability to shape the battlespace
- More efficient allocation of fire support assets to targets
- Improved responsiveness, accuracy, and lethality of fire support
- More rapid acquisition, selection, handoff, and engagement of time-critical targets
- Improved ability to mass the effects of geographically dispersed air-, ground-, and seabased fire support assets in a more responsive, accurate, and lethal manner
- Reduced fratricide.

9003. Summary. MAGTF air defense operations already exhibit many of the characteristics of network-centric warfare. Automated air command and control systems are linked through tactical data links to both weapons platforms and sensors. MAGTF fire support operations are also moving toward a network-centric warfare environment. For the near term, communications and information systems limitations preclude full implementation of a network-centric warfare concept throughout the MAGTF. However, rapidly maturing information technologies are having a dramatic impact on MAGTF

command and control capabilities. Increased processing power, software enhancements, and improved communications connectivity and networking capabilities are combining to have a dramatic effect on warfighting across the entire spectrum of conflict. The challenge facing the MAGTF is to evolve its doctrine, tactics, and techniques to realize the potential of these new technologies. The network-centric warfare construct provides a useful point of departure for exploring and implementing improvements in MAGTF command and control doctrine.

Appendix A

Glossary

Section I. Abbreviations and Acronyms

NOTE: Acronyms change over time in response to new operational concepts, capabilities doctrinal changes and other similar developments. The following publications are the sole authoritative sources for official military acronyms:

1. Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms.

2. MCRP 5-12C, Marine Corps Supplement to the Department of Defense Dictionary of Military and Associated Terms

AAV . . . . . assault amphibious vehicle
ACE . . . . . aviation combat element
ACO . . . . . airspace control order
AC/S . . . . . assistant chief of staff
ADCON . . . . . administrative control
AFATDS . . . . . Advanced Field Artillery Tactical Data System
AFC . . . . . all-source fusion center
ARG . . . . . amphibious ready group
ATF . . . . . amphibious task force
ATFIC . . . . . ATF intelligence center
ATLASS . . . . . Asset Tracking Logistics and Supply System
ATO . . . . . air tasking order
AUTODIN . . . . . Automatic Digital Network

BLT . . . . . battalion landing team

C2PC . . . . . command and control personal computer
C2W . . . . . command and control warfare
C4I . . . . . command, control, communications, computers, and intelligence
CAD . . . . . computer-aided design
CAEMS . . . . . computer-aided embarkation management system
CAG . . . . . civil affairs group
CATF . . . . . commander, amphibious task force
CBIRF . . . . . chemical/biological incident response force
CCIR . commander's critical information requirements
CE . . . . . command element
CI . . . . . counterintelligence
CIC . . . . . combat intelligence center
CINC . . . . . commander in chief
CIS . . . . . communications and information systems
CJCS . . . . . Chairman of the Joint Chiefs of Staff
CJCSI Chairman of the Joint Chiefs of Staff instruction
CJCSM . . . . . Chairman of the Joint Chiefs of Staff manual
CLF . . . . . commander, landing force
CMOC . . . . . civil-military operations center
COC . . . . . combat operations center
COCOM....combatant command (command authority)
COE . . . . . common operating environment
COMPUSEC . . . . . computer security
COMSEC . . . . . communications security
CONUS . . . . . continental United States
COTS . . . . . commercial-off-the-shelf
CSS . . . . . combat service support
CSSE . . . . . combat service support element
CSSOC . . . combat service support operations center
CTAPS . . . . . contingency theater automated planning system
CTT . . . . . commander's tactical terminal

DASC . . . . . direct air support center
DBS . . . . . Direct Broadcast Service
DII . . . . . defense information infrastructure
DIRLAUTH . . . . . direct liaison authorized
DISA . . . . . Defense Information Systems Agency
DISN . . . . . Defense Information Systems Network
DMS . . . . . Defense Message System

DOD . . . . . Department of Defense
DSCS . . . . . Defense Satellite Communications System
DSN . . . . . Defense Switched Network

EA . . . . . electronic attack
EEFI . . . . . essential elements of friendly information
ELINT . . . . . electronic intelligence
EOD . . . . . explosive ordnance disposal
EP . . . . . electronic protection
EPLRS . . . . . enhanced position location reporting system
EWCC . . . . . electronic warfare coordination center

FDC . . . . . fire direction center
FFCC . . . . . force fires coordination center
FFIR . . . . . friendly force information requirement
FIIU . . . . . force imagery interpretation unit
FMFM . . . . . Fleet Marine Force manual
FOB . . . . . forward operating base
FSC2S . . . . . Fire Support Command and Control System
FSCC . . . . . fire support coordination center
FSSG . . . . . force service support group

GBS . . . . . Global Broadcast Service
GCCS . . . . . Global Command and Control System
GCE . . . . . ground combat element
GCSS . . . . . Global Combat Support System
GENSER . . . . . general service (message)
GPS . . . . . global positioning system

H&S . . . . . headquarters and service
HDC . . . . . helicopter direction center
HF . . . . . high frequency
HMMWV . . . . . high-mobility, multipurpose wheeled vehicle
HTML . . . . . HyperText Markup Language
HUMINT . . . . . human intelligence

IAS . . . . . intelligence analysis system
IBS . . . . . integrated broadcast service
IDNX . . . . . Integrated Digital Network Exchange
IMINT . . . . . imagery intelligence
INFOSEC . . . . . information security
INTELINK . . . . . intelligence link
IP . . . . . internet protocol
IPB . . . . . intelligence preparation of the battlespace
ITSDN . . . . . Integrated Tactical-Strategic Data Network
IW . . . . . information warfare

JAOC . . . . . joint air operations center
JCCC . . . . . joint communications control center
JFACC . . . . . joint force air component commander
JFC . . . . . joint force commander
JFLCC . . . . . joint force land component commander
JFMCC . joint force maritime component commander
JOPES Joint Operation Planning and Execution System
JTF . . . . . joint task force
JTIDS . . . . . Joint Tactical Information Distribution System
JTT . . . . . joint tactical terminal
JUMPS . . . . . Joint Uniform Military Pay System
JWICS . . . . . Joint Worldwide Intelligence Communications System

LAAD . . . . . low altitude air defense
LAN . . . . . local area network
LAR . . . . . light armored reconnaissance
LFOC . . . . . landing force operations center

LOGAIS . . . . . Logistics Automated Information System

MACCS . . . . . Marine air command and control system
MACG . . . . . Marine air control group
MACS . . . . . Marine air control squadron
MAG . . . . . Marine aircraft group
MAGTF . . . . . Marine air-ground task force
MARFOR . . . . . Marine Corps forces
MARFORLANT . . . . Marine Corps Forces, Atlantic
MARFORPAC . . . . . Marine Corps Forces, Pacific
MASS . . . . . Marine air support squadron
MATCD . . . . . Marine air traffic control detachment
MAW . . . . . Marine aircraft wing
MCCC . . . . . MEF communications control center
MCDP . . . . . Marine Corps doctrinal publication
MCHS . . . . . Marine common hardware suite
MCO . . . . . Marine Corps order

MCPP . . . . . Marine Corps Planning Process
MCRP . . . . . Marine Corps reference publication
MCTSSA Marine Corps Tactical Systems Support Activity
MCWP . . . . . Marine Corps warfighting publication
MDSS . . . . . MAGTF Deployment Support System
MEF . . . . . Marine expeditionary force
MEF(Fwd) . . Marine expeditionary force (Forward)
METL . . . . . mission-essential task list
METT-T . . . . . mission, enemy, terrain and weather, troops and support available-time available
MEU . . . . . Marine expeditionary unit
MEU(SOC) . . . . Marine expeditionary unit (special operations capable)
MILSATCOM . . . . military satellite communications
MIME . . . . . multipurpose internet mail extension
MIMMS.....Marine Integrated MaintenanceManagementSystem
MLC . . . . . Marine Corps logistic command
MMS . . . . . Manpower Management System
MOPP . . . . . mission-oriented protective posture
MP . . . . . military police
MSBL . . . . . MAGTF software baseline
MSC . . . . . major subordinate command
MSSG . . . . . MEU service support group
MTACS . . . . Marine tactical air command squadron
MWCS . . . . . Marine wing communications squadron
MWHS . . . . . Marine wing headquarters squadron
MWSG . . . . . Marine wing support group
MWSS . . . . . Marine wing support squadron

NBC . . . . . nuclear, biological, and chemical
NCA . . . . . National Command Authorities
NCIS . . . . . Naval Criminal Investigative Service
NCO . . . . . noncommissioned officer
NCTAMS . . . . . Naval Computer and Telecommunications Area Master Station
NDP . . . . . naval doctrine publication
NIMA . . . . . National Imagery and Mapping Agency
NIPRNET . . . . . nonsecure internet protocol router network
NOC . . . . . network operations center
NSTISSI . . . . National Security Telecommunications and Information Systems Security instruction

OCAC . . . . . operations control and analysis center
OMFTS . . . . . operational maneuver from the sea
OODA . . . . . observe, orient, decide, act
OPCON . . . . . operational control
OPLAN . . . . . operation plan
OPORD . . . . . operation order
OPSEC . . . . . operations security
OSCC . . . . . operational systems control center

PC . . . . . personal computer
PDE&A . . . . . planning, decision, execution, and assessment
PHIBRON . . . . . amphibious squadron
PLGR . . . . . precision lightweight GPS receiver
PLRS . . . . . Position Location Reporting System
POP . . . . . point of presence
PSYOP . . . . . psychological operations

RAOC . . . . . rear area operations center
RBECS . . . . . Revised Battlefield Electronic Communications-Electronics Operating Instruction System

SACC . . . . . supporting arms coordination center
SARC . . . . . surveillance and reconnaissance center
SASSY . . . . . Supported Activities Supply System
SATCOM . . . . . satellite communications
SCAMP . . . sensor control and management platoon
SCI . . . . . sensitive compartmented information
SHF . . . . . super high frequency
SIDS . . . . . secondary imagery dissemination system
SIGINT . . . . . signals intelligence
SINCGARS . . . . . Single-Channel Ground and Airborne Radio System
SIPRNET . . . . . secret internet protocol router network
SMTP . . . . . simple mail transfer protocol
SNMP . . . . . simple network management protocol
SOP . . . . . standing operating procedure
SORTS . . . Status of Resources and Training System
SPEED . . . . . Systems Planning, Engineering, and Evaluation Device
SPMAGTF . . . . . special purpose MAGTF
STEP . . . . . standard tactical entry point
STOM . . . . . ship-to-objective maneuver
STU . . . . . secure telephone unit

TACAIR . . . . . tactical air
TACAN . . . . . tactical air navigation
TACC . . . . . tactical air command center (USMC), tactical air control center (Navy)
TACC(A) . . . . . tactical air command center (afloat)
TACLOG . . . . . tactical-logistical group
TACON . . . . . tactical control
TACP . . . . . tactical air control party
TACSAT . . . . . tactical satellite
TAOC . . . . . tactical air operations center
TCAC . . . . . technical control and analysis center
TC-AIMS . . . . . Transportation Coordinator's Automated Information for Movement System
TCO . . . . . tactical combat operations
TCP . . . . . transmission control protocol
TDN . . . . . tactical data network
T/E . . . . . table of equipment
TECHCON . . . . . technical control
T/O . . . . . table of organization
TPFDD . . . . time-phased force and deployment data
TRITAC. Tri-Service Tactical Communications System

UAV . . . . . unmanned aerial vehicle
UFO . . . . . Navy UHF Follow-On satellite system
UHF . . . . . ultrahigh frequency
ULCS . . . . . unit level circuit switch
UNAAF . . . . . Unified Action Armed Forces
USMC . . . . . U.S. Marine Corps
USMTF . . . . . United States message text format
USTRANSCOM . . . U.S. Transportation Command

VHF . . . . . very high frequency
V/STOL . . . . . vertical/short takeoff and landing
VTC . . . . . video teleconferencing

WAN . . . . . wide area network

Section II. Definitions

A

administrative control—Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called ADCON. (Joint Pub 1-02)

application—The system or problem to which a computer is applied. Reference is often made to an application as being either of the computational type, wherein arithmetic computations predominate, or of the data processing type, wherein data handling operations predominate. 2. In the intelligence context, the direct extraction and tailoring of information from an existing foundation of intelligence and near real time reporting. It is focused on and meets specific, narrow requirements, normally on demand. (Joint Pub 1-02).

architecture—A framework or structure that portrays relationships among all the elements of the subject force, system, or activity.

assign—To place units or personnel in an organization where such placement is relatively permanent, and/or where such organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. (Joint Pub 1-02)

attach—The placement of units or personnel in an organization where such placement is relatively temporary. (Joint Pub 1-02)

B

backbone—The high-traffic-density connectivity portion of any communications network.

bandwidth—The difference between the limiting frequencies of a continuous frequency band expressed in Hertz (cycles per second). The term bandwidth is also used to refer to the rate at which data can be transmitted over a given communications circuit. In the latter usage, bandwidth is expressed in bits per second (bps).

bomb—A computer program, generally malicious in nature, hidden within or emulating another program and designed to execute at a specific future time or upon the occurrence of a specific event.

C

chain of command—The succession of commanding officers from a superior to a subordinate through which command is exercised. Also called command channel. (Joint Pub 1-02)

client-server architecture—A computer networking architecture (a software architecture, not a hardware architecture). A client software entity (client) requests a service from a server software entity (server), which in turn fulfills the request. To fulfill the request, the server may provide data, perform processing tasks, control a peripheral, or

request the services of another server. A client can request services from multiple servers, and a server can service multiple clients. Because clients and servers are software entities, they can reside on the same computer or be on different computers in a network. Servers are designated according to the services provided; for example, a server providing access to communications services would be called a communications server.

close support—That action of the supporting force against targets or objectives which are sufficiently near the supported force as to require detailed integration or coordination of the supporting action with the fire, movement, or other actions of the supported force. (Joint Pub 1-02)

computer network attack (CNA). CNA involves operations to disrupt, deny, degrade, or destroy information resident in computers and computer networks, or the computers and the networks themselves.

combatant command (command authority)— Nontransferable command authority established by title 10 ("Armed Forces"), *United States Code*, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Also called COCOM. (excerpt from Joint Pub 1-02)

command—The authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel. (Joint Pub 1-02)

command and control—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. (excerpt from Joint Pub 1-02)

command and control warfare—The integrated use of operations security, military deception, psychological operations, electronic warfare, and physical destruction, mutually supported by intelligence, to deny information to, influence, degrade, or destroy adversary command and control capabilities, while protecting friendly command and control capabilities against such actions. Command and control warfare is an application of information operations in military operations. Also called C2W. C2W is both offensive and defensive: a. C2-attack. Prevent effective C2 of adversary forces by denying information to, influencing, degrading, or destroying the adversary C2 system. b. C2-protect. Maintain effective command and control of own forces by turning to friendly advantage or negating adversary efforts to deny information to, influence, degrade, or destroy the friendly C2 system. (Joint Pub 1-02)

commander, amphibious task force—The U.S. Navy officer designated in the initiating directive as commander of the amphibious task force. Also called CATF. (Joint Pub 1-02)

commander, landing force—The officer designated in the initiating directive for an amphibious operation to command the landing force. Also called CLF. (Joint Pub 1-02)

commander's critical information requirements—Information regarding the enemy and friendly activities and the environment identified by the commander as critical to maintaining situational awareness, planning future activities, and facilitating

timely decisionmaking. Also called CCIR. Note: CCIRs are normally divided into three primary sub-categories: priority intelligence requirements, friendly force information requirements, and essentail elements of friendly information (MCRP 5-12C).

command post—A unit's or subunit's headquarters where the commander and the staff perform their activities. In combat, a unit's or subunit's headquarters is often divided into echelons; the echelon in which the unit or subunit commander is located or from which such commander operates is called a command post. (Joint Pub 1-02)

command relationships—The interrelated responsibilities between commanders, as well as the authority of commanders in the chain of command. (Joint Pub 1-02)

communications—A method or means of conveying information of any kind from one person or place to another. (Joint Pub 1-02)

component—One of the subordinate organizations that constitute a joint force. Normally a joint force is organized with a combination of Service and functional components. (Joint Pub 1-02)

control—Authority which may be less than full command exercised by a commander over part of the activities of subordinate or other organizations. (Joint Pub 1-02)

coordinating authority—A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more Military Departments or two or more forces of the same Service. The commander or individual has the authority to require consultation between the agencies involved, but does not have the authority to compel agreement. In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised. Coordinating authority is more applicable to planning and similar activities than to operations (Joint Pub 1-02)

correlation— In air defense, the determination that an aircraft appearing on a detection or display device, or visually, is the same as that on which information is being received from another source. 2. In intelligence usage, the process which associates and combines data on a single entity or subject from independent observations, in order to improve the reliability or credibility of the information (Joint Pub 1-02)

D

database replication---Process by which like databases reflect commonality in information and timeliness of that information.

data terminal equipment—A networked device, such as a PC, that is capable of transmitting and receiving digital data signals over a communications circuit.

digital signature function—A cryptographic technique for authenticating electronic documents, much as a written signature that verifies the authenticity of a paper document. A message is encrypted with the sender's digital private key, and the recipient decrypts the signature with the sender's digital public key.

digital switch—A switch that performs time-division multiplexed switching of digitized signals. When used with analog inputs, analog-to-digital and digital-to-analog conversions are necessary.

digital transmission—The transmission of a digital bit stream that may include digitized voice, data, or both. The transmission signal itself may be either discrete or continuous (analog).

digital transmission group—A group of digitized voice and/or data channels that have been combined (multiplexed) into a single digital bit stream for transmission over communications media.

direct liaison authorized—That authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command. Direct liaison authorized is more applicable to planning than operations and always carries with it the requirement of keeping the commander granting direct liaison authorized informed. Direct liaison authorized is a coordination relationship, not an authority through which command may be exercised. (Joint Pub 1-02)

directory services—Network services that identify all resources on a network and make them accessible to users and applications. Resources include e-mail addresses, servers, and peripheral devices such as printers.

direct support—A mission requiring a force to support another specific force and authorizing it to answer directly the supported force's request for assistance. (Joint Pub 1-02)

domain name—The symbolic name assigned to a host on an IP network. Syntactically, the domain name consists of a sequence of names separated by periods. A domain is a logical grouping of IP hosts.

domain name system—The online distributed database system used to relate (map) readable, alphabetic domain names with numeric IP addresses.

E

electronic mail—A system of electronic communication in which a computer user can compose a message for transmission over communications networks. Some electronic-mail systems are confined to a single computer system or network, but others have gateways to the internet, enabling users to send electronic mail anywhere in the world. Also called e-mail.

F

functional component command—A command normally, but not necessarily, composed of forces of two or more Military Departments which may be established across the range of military operations to perform particular operational missions that may be of short duration or may extend over a period of time. (Joint Pub 1-02)

G

gateway—In a communications network, a network node equipped for interfacing with another network that uses different protocols. The term is loosely applied to a computer or computer software configured to perform the tasks of a gateway.

general support—That support which is given to the supported force as a whole and not to any particular subdivision thereof. (Joint Pub 1-02)

H

home page—The main page of a web site. Typically, the home page serves as an index or table of contents to other documents stored at the site.

host—In a computer network, a computer that provides services to end users. The services are considered to be hosted on that computer. The term host also refers to the computer on a network that performs network control functions.

I

information—1. Facts, data, or instructions in any medium or form. 2. The meaning that a human assigns to data by means of the known conventions used in their representation. (Joint Pub 1-02)

information correlation—Comparing data from multiple sources to improve the reliability or credibility of information.

information filtering—Assessing the value of information and culling out that which is not pertinent or important.

information fusion—Logically merging and integrating information from multiple sources into an accurate, concise, and complete summary.

information management—The processes by which information is obtained, manipulated, directed, and controlled. Information management includes all processes involved in the creation, collection and control, dissemination, storage and retrieval, protection, and destruction of information.

information prioritization—Assigning a relative importance to individual items of information. The designation of CCIRs is one means of prioritizing information.

information security—The protection of information and information systems against unauthorized access to or modification of information, whether in storage, processing, or transit, and against denial of service to authorized users. Information security includes those measures necessary to detect, document, and counter such threats. Information security is composed of computer security and communications security. Also called INFOSEC.

information system—The entire infrastructure, organization, personnel, and components that collect, process, store, transmit, display, disseminate, and act on information. (Joint Pub 1-02)

information warfare—Operations conducted during time of crisis or conflict to achieve or promote specific objectives over a specific adversary or adversaries. Also called IW. (Joint Pub 1-02)

in-line network encryptor—A cryptographic device permitting the transmission of classified data on unclassified networks or SCI data on secret networks. A key feature of in-line network encryptors is that they encrypt only the data, not the address information. In-line network encryptors, through software configuration and appropriate keying material, may be used to link multiple LANs of one classification level by using a data communications network operating at a lower classification level.

internet—The worldwide interconnection of individual computer networks operated by government, industry, academia, and private parties. The internet was originally developed by the Defense Advanced Research Projects Agency to interconnect laboratories and academic institutions engaged in government-sponsored research.

internet protocol—A DOD standard protocol designed for use in interconnected systems (internets)

of packet-switched communications networks. The IP provides for transmitting blocks of data called datagrams from sources to destinations, where sources and destinations are identified by fixed-length addresses (IP addresses). Also called IP.

interoperability—The condition achieved among communications-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or their users. The degree of interoperability should be defined when referring to specific cases. (Joint Pub 1-02)

intranet—A network based on transmission control protocol (TCP)/IP protocols (an internet) belonging to an organization, usually a corporation, and accessible only by the organization's members, employees, or others with authorization. An intranet's web sites look and act just like any other web sites, but the firewall surrounding an intranet fends off unauthorized access.

IP address—A unique numerical address assigned to each host on an IP network based on a standard scheme and by a central agency. Used to communicate between hosts on the network.

J

joint task force—A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint task force commander. Also called JTF. (Joint Pub 1-02)

L

local area network—A data communications system that lies within a limited geographic area, has a specific user group, and uses a specific topology. It is not part of a public switched telecommunications network, although it may be connected to such a network. Also called LAN.

loop—A communications channel from a switching center or an individual message distribution point to the user terminal. In a telephone system, the loop is a pair of wires running from a central office to a subscriber's telephone.

M

media access method—The method by which a terminal on a LAN accesses the LAN transmission medium.

message handling system—Provides a store-and-forward service for conveying messages between system users. DMS is an example of a message handling system.

Microsoft Windows—A family of operating systems for PCs. Windows dominates the PC world; it is installed on approximately 90% of all PCs. Windows provides a graphical user interface, virtual memory management, multitasking, and support for many peripheral devices. In addition to Windows 3.x, Windows 95, and Widows 98, which run on Intel-based computers, Microsoft also developed Windows NT, a more advanced operating system that runs on a variety of hardware platforms. Windows NT is beginning to replace UNIX as the operating system of choice for workstations.

modem—In computer communications, a device used for converting digital signals into, and recovering them from, quasi-analog signals that are suitable for transmission over analog communications channels.

modulation—The process of varying a characteristic (e.g., frequency, phase, or amplitude) of a carrier

signal in accordance with an information-bearing signal.

multichannel—Pertaining to communications, usually full duplex, on more than one channel simultaneously. Multichannel transmission may be accomplished by time-, frequency-, code-, and phase-division multiplexing or space diversity.

multiplexer—A device that combines (multiplexes) multiple input signals (information channels) into an aggregate signal (common channel) for transmission.

multipurpose internet mail extension (MIME)—The internet standard protocol for sending multipart, multimedia, and binary data by using e-mail. Typical uses include sending images, audio, word processing documents, programs, or even plain text files when it is important that the mail system does not modify any part of the file. MIME also allows for labeling message parts so that a recipient (or mail program) may determine what to do with them. The MIME internet standard is described in RFC-1521.

mutual support—That support which units render each other against an enemy, because of their assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities. (Joint Pub 1-02)

N

network management—Refers to the broad subject of managing computer and communications networks. A wide variety of software and hardware products help network system administrators manage a network. Network management includes ensuring that the network is protected from unauthorized users, preventing or eliminating bottlenecks in the network, making sure that the network is available to users, and responding to hardware and software malfunctions.

newsgroup—An online discussion group. On the internet, there are newsgroups covering every conceivable interest. A news reader is needed to view and post messages to a newsgroup. The news reader is an application that connects to a news server on the internet or intranet.

O

open system—A system with characteristics that comply with specific, publicly maintained (rather than proprietary), readily available standards. Such a system, by virtue of adherence to the standard, may be connected to other systems that comply with those same standards.

operational control—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. (excerpt from Joint Pub 1-02)

P

packet switch—A switch that breaks messages into data packets for transmission over a network and reassembles data packets into messages upon receipt.

protocol—A formal set of specifications governing the format and control of interaction among terminals communicating over a network.

R

radio-wire integration—The combining of wire circuits with radio functions.

reachback---The ability to exploit resources, capabilities, expertise, etc., no physically located in the theater or a joint operations area, when established. (MCRP 5-12D)

repeater—A device that amplifies, reshapes, retimes, or performs a combination of these functions on an input signal for retransmission. The input signal may be either analog or digital. Repeaters are used to extend the distance that network signals can be transmitted.

request for comment—A document used by the Internet Activities Board (the governing body for IPs) to develop and configuration manage IPs.

router—A device used to interconnect two or more data communications networks. The router reads the network address of all data packets and forwards them to the addressee via the best available communications path.

S

Service component command—A command consisting of the Service component commander and all those Service forces, such as individuals, units, detachments, organizations, and installations under the command, including the support forces that have been assigned to a combatant command, or further assigned to a subordinate unified command or joint task force. (Joint Pub 1-02)

simple mail transfer protocol (SMTP)—The Internet standard protocol used to facilitate the exchange of e-mail across an internet. SMTP establishes a link to a remote host and handles the translation of different mail file formats between hosts. To arrange for mail delivery, e-mail applications running on a particular host must make a call to SMTP, which then handles the delivery. SMTP uses domain names to find a connection, relying on the domain name service to make the translations to IP numeric addresses.

simple network management protocol (SNMP)—The internet standard protocol used to provide the network management capabilities needed to monitor and control a network.

specified command—A command that has a broad, continuing mission, normally functional, and is established and so designated by the President through the Secretary of Defense with the advice and assistance of the Chairman of the Joint Chiefs of Staff. It normally is composed of forces from a single Military Department. Also called specified combatant command. (Joint Pub 1-02)

split-base operations---Two or more portions of the same force conducting or supporting operations from separate physical locations. (MCRP 5-12D)

support—An element of a command which assists, protects, or supplies other forces in combat. (Joint Pub 1-02)

switched backbone—A term loosely applied to the TRI-TAC-based circuit-switched communi- cations network employed by the Marine Corps.

system administration—The maintenance of a multiuser information system, including LANs. Typical duties include adding and configuring new workstations, setting up user accounts, installing system-wide software, and allocating mass storage space.

systems network architecture—A proprietary network architecture developed by IBM.

T

T1 circuit—A communications circuit providing 1.544-Mbps capacity.

tactical control—Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Also called TACON. (Joint Pub 1-02)

task-organizing—The act of designing an operating force, support staff, or logistics package of specific size and composition to meet a unique task or mission. Characteristics to examine when task-organizing the force include, but are not limited to: training, experience, equipage, sustainability, operating environment, enemy threat, and mobility. (Joint Pub 1-02)

TELNET—The internet standard virtual terminal protocol that is used for remote terminal connection service. TELNET allows a remote terminal to log into and access services from a host computer by using dial-in or other network connections.

terminal emulation—Making a computer respond like a particular type of terminal. Terminal emulation capabilities can allow access to a mainframe computer by using a PC.

timing—The synchronization of communications signals. Of critical importance for digital communications networks and for secure communications.

topology—In the context of a communications network, the way in which the stations or terminals attached to the network are interconnected. The common topologies for LANs are the star, ring, and bus.

Trojan horse—A computer program containing an apparently or actually useful function that also contains hidden functions that allow unauthorized collection, falsification, or destruction of data.

trunk—A single circuit between two switching centers or individual message distribution points. This is in contrast to a loop, which is a single circuit between the switching center or message distribution point and the individual subscriber terminal. A trunk group is formed by two or more trunks between the same two points.

trusted workstation—A workstation meeting strict security accreditation standards and considered secure from exploitation.

U

unified command—A command with a broad continuing mission under a single commander and composed of significant assigned components of two or more Military Departments, and which is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Also called unified combatant command. (Joint Pub 1-02)

UNIX—An operating system developed at Bell Laboratories in the early 1970s. As a result of its portability, flexibility, and power, UNIX became the leading operating system for workstations. UNIX is widely used in military command and control systems. However, the proliferation of variants has limited its portability, and its lack of user friendliness is a major drawback for military applications.

V

virus—A self-replicating malicious computer program segment that attaches itself to an application program or other executable system component.

W

web browser—A software application used to locate and display web pages. The two most popular browsers are Netscape Navigator and Microsoft Internet Explorer. Both of these are graphical browsers; this means that they can display graphics as well as text.

web site—A site (location) on the World Wide Web. Each web site contains a home page, which is the first document that users see when they enter the site. The site might also contain additional documents and files. Each site is owned and managed by an individual, company, or organization.

wide area network—A term loosely applied to any communications network extending over a large geographic area. Also called WAN.

World Wide Web—A system of internet servers that support specially formatted documents. The documents are formatted in a language called HTML (HyperText Markup Language), which supports links to other documents, as well as graphics, audio, and video files. This means that users can jump from one document to another simply by clicking on hot spots. Not all internet servers are part of the World Wide Web.

worm—An independent computer program designed to self-replicate from computer to computer across computer networks, often clogging networks and monopolizing computer system resources as it spreads.

X

X.400—Open system standard for e-mail.

X.500—Open system standard for network directory service.

X.509 certificate—Open system standard for security. Many IPs and applications employ public-key technology for security purposes and require a public-key infrastructure to securely manage public keys for widely distributed users or systems. The X.509 standard provides the basis for such an infrastructure and defines data formats and procedures related to distribution of public keys via certificates that are digitally signed by certification authorities.

Appendix B

References and Related Publications

Joint Publications

CJCS Manual 6231.07	*Joint Network Management and Control*
Joint Pub 0-2	*Unified Action Armed Forces (UNAAF)* (24 February 1995)
Joint Pub 1-02	*DOD Dictionary of Military and Associated Terms* (As Amended through 15 April 1998)
Joint Pub 3-02	*Joint Doctrine for Amphibious Operations*
Joint Pub 3-07	*Joint Doctrine for Military Operations Other Than War I*
Joint Pub 3-13.1	*Joint Doctrine for Command and Control Warfare (C2W)* (7 February 1996)

Marine Corps Publications

	Marine Corps Manual (21 March 1980)
FMFM 3-1	*Command and Staff Action* (21 May 1979)
MCDP 1	*Warfighting* (30 June 1997)
MCDP 3	*Expeditionary Operations* (16 April 1998)
MCDP 6	*Command and Control* (4 October 1996)
MCRP 5-12A	*Operational Terms and Graphics*
MCRP 5-12D	*Organization of Marine Corps Forces*
MCWP 0-1.1	*Componency*
MCWP 2-1	*Intelligence Operations*
MCWP 3-25	*Control of Aircraft and Missiles*
MCWP 3-25.1 through 3-25.12 series	
MCWP 5-1	*Marine Corps Planning Process* (draft)
MCWP 6-22	*Communications and Information Systems*
MSTP Pamphlet 6-0.1	*Information Management Guide (5 October 1998)*
MSTP Pamphlet 6-0.2	*Guide to USMC Command and Control Systems (5 October 1998)*

Navy Publications

NDP 6	*Naval Command and Control* (19 May 1995)

Other Publications

Title 10, Armed Forces, *United States Code*,
Section 164

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Appendix C
Staff Action Formats

Section I. Military Briefs

MILITARY BRIEFINGS

a. Truly effective performance in any of the military Services requires communication skills that are most exacting. The need for accuracy and thoroughness on one hand and brevity and quick response on the other has given rise to a highly specialized and stylized type of speech. This type of speech has been designated the "military briefing." It requires specific techniques with respect to the role of the briefer, the purpose the briefing serves, and the nature of the required response.

b. At all levels, commanders and staff officers communicate and exercise control using the military briefing. The military briefing is used so extensively that it has become an accepted staff procedure. The primary reasons for its frequent use are to save time for the senior officer, to enable that officer to question the briefer and clarify points, and to facilitate a rapid, coordinated response, all of which serve to reduce reaction time.

c. The principles and techniques of effective speaking apply to the military briefing just as to any other type of speech. However, the military briefing is more concise, usually limited to bare, unglossed facts--the minimum needed for comprehension. There are no "attention-getters"; the essentials are delivered in a purely objective manner. The military briefing is a one-time-only presentation of facts, with reference to enough familiar material to establish a basis for understanding by the listeners. Briefers often will be required to discuss a very broad subject in a limited time. Some briefing officers find themselves giving daily or weekly briefings, but action officers most often find their briefings situational--oriented to a specific listener or audience and dealing with a specific subject in which they have expertise.

TYPES OF BRIEFINGS

a. The term "briefing" has been applied loosely, to almost every form of oral communication in which a military person is involved or in which a military subject is discussed. There are four recognizable types of military briefings: information briefing, decision briefing, staff briefing, and mission briefing. Although there are elements common to all, each type is distinct, and the briefer must understand precisely what is required in each situation.

b. Each type of briefing is designed to accomplish a specific purpose: to impart information, to obtain a decision, to exchange information, or to review important details. The objective common to every briefing is to facilitate a rapid, coordinated response.

1. **The information briefing.** The purpose is to present facts to the listeners-to keep them abreast of the current situation or to supply specific requested information. It does not require a decision; the desired response is comprehension.

2. **The decision briefing.** This briefing contains the elements of the information briefing, but it is usually more comprehensive in scope, and it is presented for an entirely different purpose. The specific response to the decision briefing is an answer to a question or a decision about possible courses of action to be taken.

3. **The staff briefing.** The staff briefing is, perhaps, the most widely used form of military briefing. It is designed for the rapid oral exchange of information within a group of people and is, in this sense, similar to the information briefing. It is also similar to the decision briefing whenever it leads to a command decision. It is known and used at every military echelon to keep a commander and staff mutually informed of the current situation. The anticipated response is a coordinated effort.

4. **The mission briefing.** This briefing is designed especially for combat operations. It is also used to brief training missions that simulate combat conditions. Its purpose can be a combination of any or all of the following: to impart last-minute information, to give specific instructions, or to instill an appreciation of the overall mission. The desired response is a thorough and up-to-date understanding of operational conditions that could affect the successful execution of the mission. It, too, is closely related to the information briefing.

Section II

STAFF ACTION PAPERS

There are, of course, some differences between commands' forms, and peculiarities of each; they reflect the unit's mission and that of the parent organization of the combatant commander and the combatant commander's preference. In general, you will not find major differences among the commands forms, nor will you find major differences between your own Service's forms and the joint forms. It is essential that you master the use of whatever forms your command uses. Each form represents a preferred method that the organization uses to operate in the staff environment and is the vehicle by which most of the communication travels.
The following are types of staff action papers used by Marine staffs.

1. Information Paper. An Information Paper is used to convey information in preparation for a meeting or briefing. Facts should be presented in clear, concise wording using "tick" and "bullet" format. There are three types of information papers: fact sheets, memorandum for the record, and memorandums.

2. Point Papers. Point Papers are often used to guide the user in discussions outside the command. They should not exceed two pages. An abbreviated sentence structure is desirable, but

clarity must be maintained. Point papers are often compiled into books for use during trips, command visits, discussion with visitors, and conferences.

3. Discussion Paper. Discussion Papers are often prepared for subjects on which discussion could be initiated, to obtain views or decisions, extend a commendation, emphasize a command position, or other appropriate reasons. A good discussion summary advises the CINC about the discussion objectives, subjects to avoid, and the recommended position to take.

4. Talking Paper. A Talking Paper is prepared in "bullet" format and is intended to be used in oral discussions for an audience that is intimately familiar with the subject.

5. Position/Decision Paper. Position/Decision Papers present the command position on unresolved issues, with necessary background information to substantiate that position and to oppose contrary views. They may include a talking paper as an enclosure, if a discussion is anticipated and it would assist the user in covering the subject. The Position/Decision Paper is used to summarize an issue, including its status and any recommendations. The paper is written in simple narrative style using direct, active sentences and is no more than two pages in length. Level of detail is determined by knowledge level of the intended user.

6. Memorandums for Record are used to record an event or action taken that would not otherwise be recorded, and are normally limited to one page. For example, they may be used to record the minutes of a meeting, a telephone conversation, or information from a one-time source.

7. Memorandums normally are limited to one page. When necessary, enclosures such as itineraries and schedules may be attached. Memorandums are often informal notes to individual staff members in the daily conduct of routine business.

8. Fact Sheets convey information to an informed principal. They are used to update the combatant commander returning from trips, to furnish material for a Congressional hearing, to submit material for briefing books for a trip, or to answer a query. There is no established format; the only mandatory information is writer's name, rank, division, directorate, phone number, and date of presentation. They should be limited to one page and normally are used to give a rapid updating on a specific topic with which the user is familiar. Brevity is the keynote in preparation.

9. Staff Summary Routing Sheets. Summary Sheets are used to coordinate routine actions within the staff. They are an informal means of communicating with the various elements of the Marine Corps. Their format is self-explanatory. Summary sheets are standard multipurpose forms to serve as referral slips, memorandums, summaries of action, and permanent records of the internal coordination on an action. Action papers are often forwarded under such sheets, as are copies of routine correspondence submitted for information.

THE STAFF STUDY

a. The staff study is one of the more flexible problem-solving procedures available to a staff. Mainly used for administrative and managerial problems where operational I considerations are not immediately involved, the staff study lists conclusions and recommendations on a specific, clearly stated problem. Many organizations use staff studies-some more than others.

b. The staff study is a formal paper that follows a prescribed format. It is flexible in content and can be applied to a variety of problems. Although mainly confined to use within the staff, the staff study is not merely a dressed-up staff memorandum.

c. We can best understand the staff study by discussing its five (or six) main paragraph headings.

1. **The problem.** Stating the problem concisely and accurately is one of the more difficult tasks in any problem-solving process. A correct statement is the foundation for all that follows. The problem may be stated as a question, a statement of need, or an infinitive phrase.

2. **Assumptions** (Include this paragraph only when it is needed.)

a. Assumptions are important, but they can be dangerous in military staff work. They constitute the reasonable suppositions that must be made to work out a problem logically. In effect, they are artificial devices to fill gaps in actual knowledge. You should be sure that the assumptions are valid and necessary. The validity of a staff study is tied directly to the validity of the assumptions.

b. Do not make assumptions that are essentially self-evident.

3. **Facts bearing on the problem**

a. A list of every fact related to the study is, in most cases, too lengthy and involved. Select those that need to be highlighted and list them in logical sequence (preferably the order in which they will be used in the discussion to follow).

b. Facts also may be introduced in the discussion paragraph itself Whether they are singled out for listing in this paragraph or introduced in the course of the discussion, they must be authenticated. Practice varies in this detail. The annexes are the appropriate place to expand on facts, if detailed explanations are necessary.

4. **Discussion**

a. The discussion is the heart of the staff study; it is where the problem is analyzed and the options are considered. One method is to describe the advantages and disadvantages of possible solutions, introducing facts and reasoning sequences as necessary. Another technique is to list criteria and test each possible solution against each criterion.

b. If a full discussion requires more than two or three typed pages, include it as an annex. However, an annex should not be used merely to avoid the labor of mak-

ing the discussion concise and logical. The purpose of a staff study is to save the commander's time by doing a careful job of writing; referring to a long, rambling discussion annex is not doing the job properly.

5. **Conclusions**

a. This paragraph is where the best solution to the problem is selected. The conclusions must follow logically from the discussion and should contain a brief statement of the superior solution.

b. The writer must be careful not to include new material or new viewpoints in the conclusion paragraph.

6. **Recommendations.** This paragraph explains how the conclusions can be implemented. If a letter, memorandum, or message is needed to implement the conclusions, it is customarily attached as enclosure "A." All that should remain for the commander to do is to approve and, if necessary, sign the enclosure.

a. The basic question that must be answered is, "If the commander buys the recommendation, will the problem be solved?"

LETTERS. Frequently, a letter is the recommended action and is attached to a decision paper for approval, signature, and dispatch. Commands are free to choose the style of letter for their use (see SECNAVINST 5216.5D, *Navy Correspondence Manual*, for additional information).

MESSAGES

Reference: MIL STD 6040, *U.S. Message Text Formatting Program*

a. Some actions may recommend dispatching a message. Messages may be transmitted electronically, or they may be sent by mail or courier, depending on requirements for speed of delivery and security. Precedence categories indicate the relative order in which a message is processed in the telecommunications system and the speed with which it must be handled during internal headquarters processing. The time objective established as a general guide is as follows:

Precedence	**Code**	**Time Objective**
Flash	ZZ	As fast as possible (less than 10 minutes)
Immediate	00	30 minutes
Priority	PP	3 hours

Routine	RR	6 hours

b. Whenever a message is prepared that includes the word "not"--where the accidental omission of the "not" would produce the opposite or other action than that desired--add the words, "repeat not," e.g., "Execution will not repeat not be made pending receipt of further orders."

c. References should be listed in messages. All references should be briefly summarized in the first part of the message so that the message stands alone and can be completely understood without reading the other documents. Avoid the use of Not To All (NOTAL) references whenever possible.

Section III
LIST OF FORMATS

CLASSIFICATION

Code/Office
Date

POSITION/DECISION PAPER

Subj: The subject matter is indicated briefly but in sufficient detail to facilitate filing and future reference.

Ref: (a) References are listed as appropriate
(b) If none are appropriate, enter the notation "none"

1. PROBLEM

The problem statement tells what the problem is for which the position paper is being developed. Usually stated "To develop a . . . position . . . ."

2. WHY REQUIRED

a. A position paper also states why the paper is required.

b. Is it directed by higher headquarters?

c. . . . .

3. BACKGROUND

a. The background sets forth in concise terms what has gone before.

b. It provides answers to such potential questions as: Is this and ongoing thing? Did something suddenly occur requiring reexamination?

c. . . . .

4. POSITION OF OTHER AGENCIES

The position of other agencies are addressed when appropriate, otherwise this part of the position paper has the caption "Not Applicable" inserted.

5. RECOMMENDED MARINE CORPS POSITION:

The recommended position is stated in clear, concise terms. When it is to be promulgated, it is usually attached on a separate sheet.

6. RATIONALE

a. The rationale includes concise statements which support the position taken.

b. . . . .

7. RECOMMENDATION

The recommendation is what you recommend be done: e.g. , "Approve the Marine Corps position contained in paragraph 5," or "reconsider . . . ." A decision block is also included for the decision to be recorded by the approving authority.

/s/_____
(Staff Agency Head)

For Decision by the Commandant

C/S Recommends: Approval _____

Disapproval _____

ACMC Recommends: Approval _____

Disapproval _____

CMC Decision: Approved _____

Disapproved _____

CLASSIFICATION

Code/Office
Date

TALKING PAPER

For use by (name or title of person for whose use the paper is prepared)

Subj: The subject matter is indicated briefly but in sufficient detail to facilitate filing and future reference.

BACKGROUND: The background sets forth in concise terms what has gone before. It provides answers to such potential questions as: Is this an ongoing thing? Did something suddenly create this requirement?

DISCUSSION: The discussion is a concise narrative of all the salient points related to the topic under discussion. References that are used as a source are cited in the discussion.

RECOMMENDATION: Recommendations are reduced to clear, concise statements permitting simple approval or disapproval by the approving authority.

APPROVAL: An approval block is provided for authentication by the approving authority.

ACTION OFFICER: (The name of the action officer who prepared the paper should be included.)

Classified by _____
Declassify on _____

CLASSIFICATION

1 CLASSIFICATION

2 Office Symbol/Code
3 Date

4 INFORMATION PAPER

5 SUBJECT: Subject is addressed concisely

6 ISSUE: State the issue in question

7 FACTS:

8 1. Facts and salient points are listed in logical order.

9 2. . . . .

10 3. . . . .

11 Signature
12 Title

13 Classified by _____
14 Declassify on _____

15 CLASSIFICATION

CLASSIFICATION

Code/Office
Date

POINT PAPER

Subj: The subject matter is indicated briefly but in sufficient detail to facilitate filing and future reference.

1. (The salient points which relate to the subject are listed.)

2. (These points written as short, concise statements.)

3. (The points are arranged in logical sequence (time permitting).)

4. . . . .

5. . . . .

SUMMARY:

The salient points are followed by an even more concise summary. This summary includes any conclusion or position which is appropriate.

Classified by _____
Declassify on _____

CLASSIFICATION

(SSIC)
(Code)

MEMORANDUM FOR THE RECORD

Subj:

1. Information on the (meeting, conference, telephone conversation, person involved, etc.)

2. This and subsequent paragraphs will contain:

a. Background and discussion (when necessary for clarity).

b. Conclusions reached and decisions made.

c. Staff agencies responsible for specific action (if applicable).

/s/ (Name)
(Grade)

Classified by _____
Declassify on _____

CLASSIFICATION

STAFF STUDY

(Local variations and modifications as necessary to meet requirements.)

CLASSIFICATION

Copy no. __ of __ copies
Originating section
Parent headquarters
PLACE OF ISSUE
Date/time of issue

SUBJECT

The subject matter is indicated briefly but in sufficient detail to facilitate filing and future reference.

INTRODUCTION

An introduction is not necessary but may be used to clarify an understanding of the problems or to limit the scope. It should be brief and should not include discussion material.

1. PROBLEM

The problem is stated in concise and specific terms. A statement beginning with an infinitive is commonly employed but other forms of expression may be used when more desirable.

2. ASSUMPTIONS

If there are no assumptions, indicate by so stating. Assumptions are used to bridge gaps between known facts and their use may be necessary to complete the problem solving process. Unnecessary assumptions are avoided, and care is taken to avoid substituting assumptions for ascertainable factors or for conclusions. An assumption is defined as a supposition regarding the current situation, or a presupposition on the future course of events, either or both assumed to be true in the absence of positive proof to the contrary. They may be necessary to enable the commander, in the process of planning, to complete his estimate of the situation and make decision on his course of action.

3. FACTS BEARING ON THE PROBLEM

Known and established facts having a direct bearing on the problem. These are stated concisely and the source shown; e.g., (A/5p.6) indicates Annex A (bibliography), 5th reference, page 6. They are indicated and numbered in the order of first appearance in the study. Page numbers are not shown in the bibliography.

(Page number)
CLASSIFICATION
CLASSIFICATION

4. DISCUSSION

The facts and assumptions and their implications are analyzed in this paragraph. The reasoning which leads to the conclusions and recommendations is set forth. This paragraph is a logical development of all pertinent aspects of the problem, including the formulation, analysis, and comparison of possible solutions and courses of action. An essay-type statement of facts, assumptions, and their inter-relation to the problem does not satisfy the requirements of this paragraph. If a detailed discussion is attached as an annex, then the discussion paragraph in the body of the study should be a summary of the annex. In these instances, however, the discussion paragraph must contain sufficient information to ensure understanding without reference to the annex. A statement "See Annex B, detailed discussion" does not suffice.

5. CONCLUSIONS

The reasoning set forth in the discussion culminates in conclusions which are presented here in concise form. Statements in the conclusions paragraph should begin with: "THAT the . . . ." They should not be a restatement of facts or assumptions, but rather should be solutions which are logically derived from the analysis in the discussion.

6. ACTION RECOMMENDED

Recommendations are reduced to clear, concise statements permitting simple approval or disapproval by the approving authority. Normally recommendations begin with "THAT" or "It is recommended that" (list subparagraphs)." If an implementing document is required, it should be attached with a recommendation for signature to implement and forward as necessary.

Signature
Name
Rank and Service
Title

Recommendations	Approved	Disapproved
6.a	_____	_____
6.b	_____	_____
6.c	_____	_____

ANNEX A: Bibliography

1. Author, title, year of publication, name of publisher.
2.
3.
4.

1

1

1

CHECK LIST FOR CONFERENCE LEADER PREPARATION AND PLANNING

CONFERENCE CHECKLIST

APPENDIX D
LIAISON

As the representatives of their parent command, LNOs frequently provide the critical link to effectively coordinate and execute MEFoperations. The sequenced checklist provided in this Appendix provides guidance for the conduct of LNO duty.

a. Liaison qualifications are as follows:

Level	Rank	Security Clearance
MSC > MEF	03/04	S
MEF > HHQ	04/05	TS
MEF > Adjacent	03/04	S
MEF > Coalition	05/06	TS

b. MEF LNO requirements are traditionally sourced from the MEF Augmentation Command Element (MACE). LNOs should report with a laptop computer.

c. LNOs are the personal representative of the MEF Commander and in order to gain the confidence and cooperation of the commander and staff of the receiving unit the LNO must:

- Be able to convey the MEF Commander's vision, mission, concept of operations and guidance.
- Be capable of representing the MEF Commander's position.
- Be thoroughly knowledgeable of the MEF’s mission and its tactics, techniques, and procedures (TTP); organization; capabilities; and communications equipment.
- Appreciate and understand the receiving unit's procedures, organization, capabilities, mission, and customs. (In the case of multinational forces, understanding the unit's doctrine is critical).
- Be familiar with the requirements for and the purpose of liaison; the liaison system, and its corresponding reports, reporting documents, and records; and the training of the liaison team.
- Observe the established channels of command and staff functions.
- Be trained in his functional area.
- Possess the necessary language expertise, if required.

LIAISON IN SPECIFIC OPERATIONS

a. Joint Operations. Current joint operations communications systems do not provide for all operational requirements. Therefore, the MEF uses liaison to ensure that the actions of MEF forces and forces of other services attached to the MEF are coordinated and synchronized. In the joint force, the MEF headquarters provides liaison to the equivalent headquarters of the other services. The MARFOR headquarters will establish liaison with the JFC's headquarters. LNOs must have a working knowledge of the supported unit's doctrine so that they can rapidly translate information into information products MEF personnel can understand. This is particularly critical when units have no habitual relationship or have not recently trained together, such as when U.S. Army aviation is assigned to the MEF.

b. Multinational Operations. Mutual confidence and understanding is the key to (successful) multinational operations. Liaison activities in this environment require explicit coordination of doctrine and techniques, greater patience and tact during personal interaction, and thorough understanding of the strategic, operational, and tactical aims of the international effort. When operating as part of a multinational force, MEF units must cooperate with military forces and civilian agencies of other nations. Cultural differences and sensitivities require special communications and liaison arrangements to ensure common understanding throughout the alliance or coalition. Significant challenges also occur because of each force's differing degree of technological sophistication. In multinational operations, factors to consider include:

- Special communications and liaison arrangements to ensure common understanding throughout the multinational force.

- Ideally, a LNO should speak the language of the force to which he is attached. If not, he must be accompanied by interpreters who have the same access to classified information as the liaison officer they support.
- Tact and an understanding of other nations characteristics and culture are essential. Other nations often resent any semblance of a dictatorial manner by LNOs or visiting staff officers.

- When a LNO must send a message from the receiving commander's unit to the sending unit, he should first show the English version of the message to the foreign force commander or his senior staff officer to ensure the message correctly reflects the meaning and emphasis of the original message.

- Specialist LNOs (such as aviation, fire support, engineer, intelligence, military police, transportation, and civil affairs officers) may be exchanged when foreign or U.S. forces must interact with equipment, or procedures with which they are unfamiliar.

TASKS

a. AC/S G-1

(1) Source MEF LNO requirements as identified by the AC/S, G-3.

(2) Ensure that arriving LNOs to the MEF are properly joined and accounted for.

b. AC/S G-3

(1) Provide staff oversight of MEF LNO requirements.

(2) Coordinate with the AC/S G-1 for LNO sourcing.

(3) Ensure that all departing LNOs are thoroughly briefed and have the requisite support items to include a copy of this SOP.

c. AC/S G-4. Arrange transportation support as required.

d. AC/S G-6. Coordinate LNO communications requirements between the MEF and the gaining command.